INSIDE: HOW TO KEEP FROM BUMPING INTO BEARS
Montana Outdoors
MONTANA FISH, WILDLIFE & PARKS | $2.50
NOVEMBER
MBER 2009
THE NEW BISON HUNT
What's all the quiet about?
THE PROCESS OF GAME PROCESSING
MULEYS RIGHT IN FRONT OF YOUR NOSE
WHO'S CALLING? FWP PHONE SURVEYORS

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NOT SLEEPY Warmer falls in recent years have delayed grizzly bear hibernation. Turn to page 20 to learn what this means to hunters. Photo by Tim DePuydt.

FRONT COVER See our story on page 8 to find out why the new bison hunt generates so little controversy. Photo by Jason Savage.

Montana Outdoors

NOVEMBER–DECEMBER 2009

FEATURES

8 The (Surprisingly) Quiet Bison Hunt Unlike 20 years ago, there has been little uproar over the recent hunting of wild buffalo emerging from Yellowstone National Park. Why? *By Scott McMillion*

14 Into the Meat Locker Behind the closed doors of a game processing facility. *By Tom Dickson. Photos by Erik Petersen*

20 Becoming Aware of the Bear As Montana's grizzly numbers grow and the bears remain active well into the big game season, hunters need to be more alert than ever. *By Scott McMillion*

ERIK PETERSEN

14 Into the Meat Locker

26 Muleys in Plain Sight Finding mule deer in eastern Montana sage and grasslands often means seeing what's right there in front of you. *By John Barsness*

32 A Few Important Questions FWP winter phone surveys are the best way to determine game animal harvest, hunter effort, and other essential information biologists use to manage Montana's wildlife populations. *By Tom Dickson.*

DEPARTMENTS

2 **LETTERS**
3 **OUR POINT OF VIEW** Hunt Represents Successful Wolf Conservation
3 **NATURAL WONDERS**
4 **OUTDOORS REPORT**
6 **SNAPSHOT**
36 **RECOMMENDED READING**
40 ***MONTANA OUTDOORS* INDEX**
41 **OUTDOORS PORTRAIT** Gray-Crowned Rosy-Finch
42 **PARTING SHOT** Any Luck?

Article's cartridge description off target

I want to point out an error in the article "Digging Deep into History" (March-April). The cartridge case mentioned in the caption on page 28 and again in the text on page 29 is in error. There is no such thing as a ".44-50 Henry Flat." The .44 Henry was a rimfire cartridge that held 26 to 28 grains of powder. The bullet could be either pointed (rare) or flat (common). The article makes it sound like it was the rifle that was flat. Proper nomenclature would be either .44 Henry or .44 Flat. Cartridge nomenclature for many blackpowder cartridges featured two numbers, the first being the caliber and the second the powder charge. As an example, the nomenclature for the centerfire 40-50 Sharps Straight indicates 40 caliber with 50 grains of black powder. The .44 Henry cartridge case could come nowhere close to holding 50 grains of powder. Both the Henry rifle and the 1866 Winchester, as well as some other firearms, chambered the .44 Henry cartridge. Both rifles had a double firing pin, while the Colt revolver had a single firing pin. Hence, two firing pin strikes should be apparent on the rim of the case if it was fired from one of these rifles. The .44 Henry cartridge was loaded by ammunition companies up to about 1934.

Dennis Flath
Belgrade

Dead is dead

I recently read your letters column regarding the observed decrease in the populations of mountain goats in the state (July-August). Your department's reply seems disingenuous. You say, "Ending all goat hunting would not help Montana's overall goat population, because roughly the

same number of goats killed by hunters would die anyway from predators, starving, and other natural causes." Well, I probably just don't understand it. But when you are dead you are dead—whether shot by a hunter, killed in a fall, eaten by an eagle, starved to death, or killed by disease. As such, you are not going to be able to reproduce and therefore the population will decline. Certainly one cannot claim that hunters only shoot those animals that are going to die anyway. On the contrary, most hunters I know are looking for trophy animals (i.e., those in their peak reproductive years that are most likely to replenish dwindling populations). It seems to me that if you remove animals from a population by hunting, you will decrease that population from what it would have been if you did not permit hunting. The goal should be to have a stable population, which will allow a sustainable harvest. Allowing continued hunting (predation) of a dwindling population will not achieve this goal. As an aside, let me assure you I am not anti-hunting, and I believe that hunters play a necessary and important part in sustaining our ecosystem.

Edward H Williams, MD
Red Lodge

Real hucks?

My friends and I consider ourselves experts on huckleberry picking, but we are worried we have been picking the wrong berries all these years. Is the photo you showed on page 5 of the July-August issue the real thing? I have $50 riding on your answer.

Shannon Abromeit
Sandpoint, ID

According to Peter Stickney, curator emeritus at the U.S. Forest Service herbarium in Missoula, the photo we used shows a huckleberry species, Vaccinium ovatum, *that is native to the West Coast but does not occur in Montana. Of the seven different huckleberry species Stickney says occur in Montana, we should have shown the most common one,* Vaccinium globulare.

Pine beetles in towns

I am an ISA-certified arborist concerned about insects devastating urban forests. The sidebar "From Evergreen to Everrust" (March-April) explained threats by beetles to national forests but didn't mention urban forests. When the beetles have exhausted their food supply in wilderness areas, they will then turn to urban forests.

Avalon M. Standstall
Chinook

It's already started. Anyone driving into Montana's state capital, for example, will see that roughly 30 percent of the ponderosa pines and Douglas firs on Mt. Helena are dead from beetle infestation. At least that much more is infected but hasn't yet begun turning red.

California compliment

I would like to compliment you on your magazine. It is the best of all the ones I subscribe to. I'm 81 years old and have hunted my whole life. I have three sons who all hunt, as do my grandsons. Thank you for publishing such a fine magazine.

John Droege
Woodland Hills, CA

Work never ends

Thanks for the great article "Monitoring Montana's Moving Water" (May-June). My husband is one of the 15 hydro techs who stream gage on the east side of the state. They deserve recognition for the public service they provide. I might add that their work is done 12 months of the year in snow, rain, and wind—not to mention mosquitoes and black flies.

Becky Johnson
Fort Peck

We welcome your comments, questions, and letters to the editor. We'll edit letters as needed for accuracy, style, and length. Mail them to: Montana Outdoors, P.O. Box 200701, Helena, MT 59620-0701. Or e-mail us at tdickson@mt.gov.

TOM DICKSON

Hunt Represents Successful Wolf Conservation

On September 16, a hunter killed the first wolf in Montana's first regulated, fair chase wolf hunting season. His shot in a remote wilderness area of southwestern Montana signaled that wolves in the northern Rockies are fully recovered to the point that populations can now support regulated hunting seasons.

To those unfamiliar with how wildlife conservation works, it may seem strange that a hunting season represents a healthy and recovered wildlife population. After all, wasn't hunting responsible for killing all the wolves in Montana in the early 1900s?

Actually, no. What drove wolves to near extinction in the West were largely state and federal eradication programs and bounties that encouraged indiscriminate shooting, trapping, and poisoning of any and all wolves across the region. That was a different era, a time when many predator species, including bald eagles, were viewed as vermin that should be wiped out to protect both game animals and livestock. We've learned a lot since then, and attitudes toward many wildlife species have changed greatly.

Wolves were protected by the federal Endangered Species Act in 1973. The population in Montana slowly recovered and then took off after the U.S. Fish & Wildlife Service released 66 wolves into Yellowstone National Park and central Idaho in the mid-1990s. Numbers in Montana grew from just 1 wolf in 1980 to roughly 500 today. As a result of this successful population recovery, the federal government returned wolf management authority to the state. With that new authority, Montana approved—as it does for other large carnivores such as cougars and black bears—a carefully regulated hunting season that allows for a portion of the wolf population to be sustainably harvested each year. In this, the first year of hunting, the FWP Commission opted for a conservative harvest of no more than 75 wolves. This ensures that the population will not decline and allows our department to carefully monitor the population during and after the hunting season.

Montana's wolf hunting season will not endanger the health of the wolf population. State and federal monitoring shows that wolves continue to move among subpopulations in the three recovery zones—the Greater Yellowstone Ecosystem, northwestern Montana, and central Idaho—as well as to and from Canada. This movement will help maintain genetic diversity. Montana's wolf season was designed to not impede wolf dispersal, such as by stipulating that no more than 25 percent of the harvest can come during December, when wolves are especially mobile and moving among subpopulations.

JWANTULOK.COM

While Montana's wolf population will remain healthy, it still needs control to retain a reasonable balance of the carnivores and other wildlife. In hunting districts near Yellowstone, wolves have killed up to 20 percent of the elk. Calf recruitment in parts of the Bitterroots this past spring dropped to a record low. And wolves may be worsening the effects of recent severe winters on northwestern whitetail populations. Also, 77 cattle and 111 sheep were confirmed as killed by wolves last year, and more wolf depredations likely occurred but could not be verified. The wolf hunting season is intended to help reduce livestock losses and lessen effects on wild ungulate populations.

Each year, hunters in this state kill roughly 1,200 black bears and anywhere from 300 to 600 mountain lions as part of carefully regulated seasons. But because bears and lions produce new cubs and kittens each year, and the animals have ample habitat in which to live, the populations of both species remain healthy. This department manages bears and lions in balance with their habitat, other wildlife, and the people who live in Montana. The same holds true for elk, deer, and all the other game species.

And it will be the same for wolves, too.

—Joe Maurier, *Director, Montana Fish, Wildlife & Parks*

NATURAL WONDERS

ILLUSTRATION BY PETER GROSSHAUSER

Q. ***Where do I go to catch the biggest rainbow trout in Montana?***

A. The biggest rainbows come from the Kootenai River, where they grow to steelhead size. That state record is a 33.1-pound monster caught in 1997. Rainbows over 15 pounds are caught there each year. The next biggest rainbows come from the prairie ponds east of the Continental Divide, especially those on the Blackfeet Indian Reservation, where trout regularly top 10 pounds. Big rainbows also swim in a few spring creeks, such as Armstrong and DuPuys, located in the Paradise Valley.

HARVEST YOUR OWN HOLIDAY BIRD

This Thanksgiving, consider treating your family to an organic, free-range wild turkey you shot yourself. Here's how to bag one of these game birds for a holiday meal:

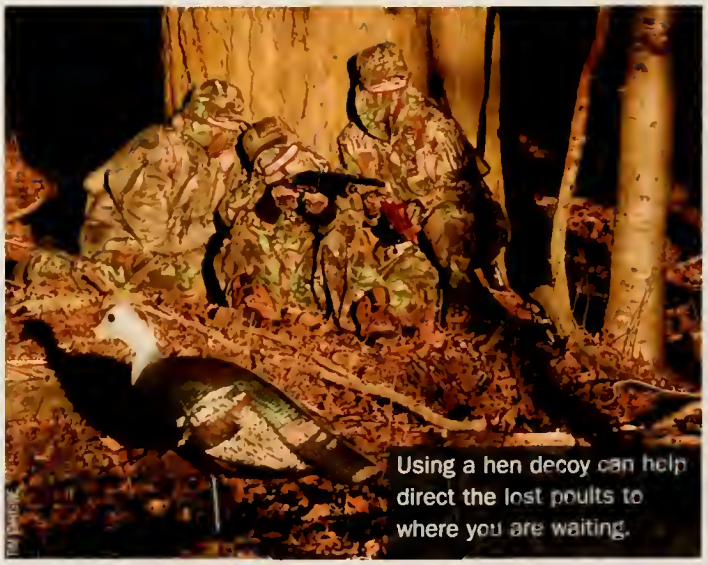
Though most wild turkeys in fall are shot incidentally by deer hunters who happen upon one (turkeys can be killed using rifles during the fall season), fall turkeys will come to calls the same as spring birds. The hunting is just as exciting, though the tactics differ greatly.

In spring, the goal is to sound like a lonely hen and hope to lure a lovesick tom to within shotgun range. But in fall, the mating season is long over, so your best bet is to attract young-of-the-year birds, called poults, which hang together in a flock with their mother hen. Once you find a flock, sneak as close as possible without spooking the birds. For your safety, lay your shotgun on the ground. Then—believe it or not—run toward the birds, waving your arms and yelling. They key is to scatter the turkeys in as many different directions as possible.

Next, retrieve your shotgun and find a hiding place near the spot where you busted the flock. Wait 15 minutes and begin calling. The young birds, anxious about being separated, will begin to drift back to where they were scattered. The turkeys often respond to either a plain cluck or what's known as a lost or kee-kee call. Another option is to sit tight and wait until you hear the birds approaching, then mimic their call.

Make sure the turkey is within range of your shotgun and shoot at the neck and head to ensure a killing shot. In fall, both male and female turkeys are legal targets.

The fall wild turkey season runs September 1 to January 1. The limit is two birds (though the total for one hunter for both spring and fall seasons combined can't be more than two turkeys). Most of Montana's western half is open to hunters with a fall turkey license. Some areas elsewhere in the state have special seasons requiring permits that are awarded by lottery in late summer. For regulations covering Montana's fall wild turkey season, visit fwp.mt.gov/gamebird.html#turkeyfall. For information on hunting fall birds, visit the National Wild Turkey Federation website at nwtf.org.



Using a hen decoy can help direct the lost poults to where you are waiting.

Montana Outdoors takes silver

Montana Outdoors came in second in the state conservation magazine category at the 2009 Association for Conservation Information (ACI) awards ceremony held in July in Baton Rouge, Louisiana. The winning publication was *Arkansas Wildlife*. Third place went to *Texas Parks & Wildlife* magazine.

This is the fifth time in the past five years the Montana FWP conservation publication

has placed either second or first in the ACI magazine category. Organized in 1938, the ACI is a nonprofit organization of professional communicators working for state, federal, Canadian, and private conservation agencies and organizations.

Save those shanks

Reader John A Spizziri, Sr., of Wyckoff, New Jersey, recently wrote to say he enjoyed our article in the 2007 November-December issue on cooking tough cuts of venison ("Venison Alchemy"). "I want to pass along one of my favorite ways of serving venison," he added. "It's the Italian dish Osso Bucco, made with venison shanks rather than the traditional veal shanks or lamb shanks. A butcher friend saves the shanks for me from every deer he processes, and at the end of the season I have quite a store of them. Use any traditional recipe for Osso Bucco. I recommend using a slow cooker for at least four or five hours and then adding vegetables during the last half hour. Best served with a bottle of fine Italian wine."

Look good? It's braised deer or elk shank, otherwise known as Osso Bucco.

ISTOCKPHOTO

Whitefish boy wins national fish art contest

You have to wonder what Carson Collinsworth will win now that he's reached the ripe old age of 12.

In August, the Whitefish student won the national best-of-show in the grade 4 through 6 class of the Wildlife Forever 2009 State-Fish Art Contest.

CARSON COLLINSWORTH

Judges decided that 11-year-old Carson Collinsworth's rendition of a westslope cutthroat trout was the best artwork of the 50 entrants in his grade class from states across the U.S.

The national conservation group's annual contest encourages schoolchildren grades 4 through 12 to learn about fish. "It's a great way to build awareness of native species," says Jim Vashro, FWP regional fisheries manager for northwestern Montana, an advocate of the state-fish art contest. Though the students also must submit an essay about the fish along with their artwork, Vashro believes most of the learning comes from painting. "You have to really pay attention to body shape, color, fin location, things like that. And a lot of students put their fish into its natural environment, so they add substrate and aquatic vegetation and insects. They think of the fish as part of an ecosystem," he says.

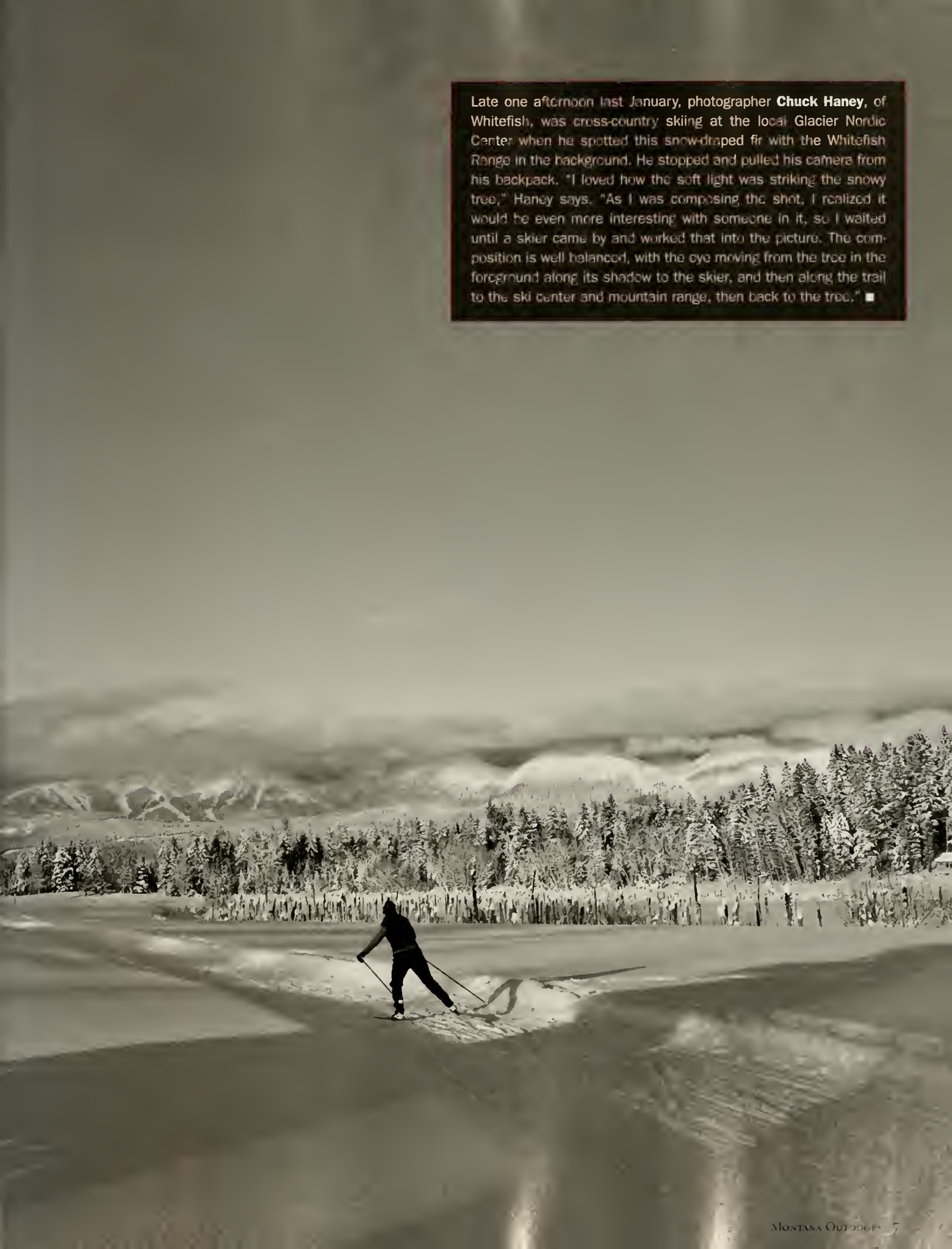
Originally the contest required entrants to paint only the state fish of the state where they lived, but now they can submit a state fish from any state.

Judges for the 2009 State-Fish Art Contest included an official with the U.S. Fish and Wildlife Service, past Federal Duck Stamp winner Joe Hautman, and Wildlife Forever chairman Scott Grieve. The 108 winning artists from across the country were invited to the award ceremony, held at the Mall of America in Bloomington, Minnesota.

Painted when Carson was 11 years old, the watercolor of a westslope cutthroat trout head displays a sensitive use of color and line that many adult artists would envy.

The watercolor also won first place in Carson's class division in Montana. His sister, Kendyl, took first place for Montana entries in grades 7 through 9.

Whitefish has been a veritable student wildlife art factory in recent years. More than a dozen state-fish art contest winners have come from Whitefish High, where the artists were students of Lonnie Collinsworth, Carson's and Kendyl's father. His students have also won first place in several Montana Junior Duck Stamp contests, and one took top prize in the Federal Junior Duck Stamp contest in 2002.



Late one afternoon last January, photographer **Chuck Haney**, of Whitefish, was cross-country skiing at the local Glacier Nordic Center when he spotted this snow-draped fir with the Whitefish Range in the background. He stopped and pulled his camera from his backpack. "I loved how the soft light was striking the snowy tree," Haney says. "As I was composing the shot, I realized it would be even more interesting with someone in it, so I waited until a skier came by and worked that into the picture. The composition is well balanced, with the eye moving from the tree in the foreground along its shadow to the skier, and then along the trail to the ski center and mountain range, then back to the tree." ■

The (Surprisingly) Quiet Bison Hunt

Unlike 20 years ago, there has been little uproar over the recent hunting of wild buffalo emerging from Yellowstone National Park. Why? **BY SCOTT MCMILLION**

JEFF KNIBBE

If you didn't hear much about last year's bison hunt in Montana, you are not alone.

The hunt didn't last long.

"It was a one-shot season," says Scott Kremer, of Gardiner, who killed the only bison taken by a hunter last year. He shot the large bull on opening day. And that was the extent of the bison sport and tribal harvest. A mild winter in Yellowstone National Park, home of the nation's largest wild bison population, allowed the animals to find enough grass in the park to stay until the hunting season ended. As a result, the dozens of other hunters who'd drawn Montana's coveted bison license had no chance to fill their tag.

And if you didn't hear much about the previous bison season, that also is understandable. Though hunters from Indian tribes and the general public killed 166 animals in 2007-08, those hunts received little media attention.

Compare that to the overheated atmosphere in the late 1980s. National media descended on Gardiner and West Yellowstone to film hunters shooting bison at near point-blank range, enraged bison advocates and anti-hunters howled their protests on the airwaves, and Montana Fish, Wildlife & Parks game wardens did all they could to maintain public safety.

Why the difference? The main reason is that FWP removed many problems associated with the old hunt. Previously, hunters had to be escorted by a game warden who walked them right up to the bison—and right into criticism of "unfair chase" and "slaughter" from protestors. The new hunt is more sporting. It offers hunters more land on which to hunt, thorough training by FWP staff, and the ability to hunt on their own. What it doesn't offer is a guarantee. The old hunts had success rates at or near 100 percent. Today's bison hunting has become more like ordinary elk or moose hunting. Success depends on the hunter, the weather, and the animals.

And when something starts to look ordinary, it becomes less newsworthy.

PUBLIC RELATIONS BLACK EYE

Though bison have come to symbolize the wild American West, for the first half of the 20th century the animals were treated like cattle by the National Park Service. Yellowstone employees turned bison to mountain pastures in summer, rounded them up and fed them hay in winter at the Lamar Valley Buffalo Ranch, and ran scores of them through a slaughterhouse. Then, in 1967, the Park Service adopted a philosophy of "natural regulation." That closed down the ranch's bison operation and ended a controversial population control program, in which park rangers shot bison in the field to cull herds. Without an abundance of natural predators, the bison population mushroomed. As numbers swelled, the wild ungulates spilled out of the park. As a result, Montana began to offer bison hunting permits. Hunting is illegal within Yellowstone, but as bison left the higher elevations of the park, seeking exposed grass on lower ground, they could be harvested in Montana. The hunts, which began in 1985, filled freezers but also stirred emotion and controversy, largely because of how they were conducted.

Jim Kropp, now chief of FWP Enforcement, supervised game wardens overseeing the 1980s bison hunts near Gardiner and West Yellowstone. He says the idea of having wardens accompany each bison hunter was to ensure all kills were quick and humane so hunters could harvest lots of bison. The efficient process also prevented the animals from straying too far from the park and mingling with cattle. (Many bison were infected with brucellosis, a complicated bacteriological disease that, if transmitted, can cause cattle to abort their calves.) When bison left the park, permit holders were called and informed they had 36 hours to reach the West Yellowstone or Gardiner areas. When they arrived, wardens took them directly to the animals. "We showed them the bison and said, 'Here they are,'" Kropp recalls. When the shooting was done for the day, wardens chased the remaining bison back into Yellowstone, where the animals might stay for a few days, depending on grazing and weather conditions, before heading back out.

The tightly managed bison harvest was efficient—a record 569 bison were killed in the 1988-89 season—but many people considered it unsporting. The hunts were conducted under the magnifying lens of national television crews, alerted by protest groups outraged by the hunting of an animal shot

State shot itself in foot
Sunday
29
Buffalo: to shoot or not to shoot?
Heading for disaster
Animal rights advocate warns of image woe for Yellowstone
STATESLINE
Buffalo battle: Conservationists vs. the ranchers
Humane Society may join fight against bison hunt
Community
Hunter tells of clash with protesters
Buffalo hunt is no hunt
There's no sport, says FWP director

NOT HUNTING'S FINEST HOUR

During the 1988-89 bison season, state and national media highlighted the unsportsmanlike conditions of the hunt. "A Firing Squad for Buffalo: Montana-Style Hunting" read a *Newsweek* headline over the picture of a grinning hunter and his blood-drenched trophy. An article in *Time* referred to the hunt as a "public relations disaster" for Montana. Not surprisingly, state lawmakers soon ended the controversial hunt. It took another 14 years for bison hunting to return to Montana.

Scott McMillion, of Livingston, is a freelance writer and a senior editor for Montana Quarterly.

nearly to extinction in the 19th century by market hunters. Protesters hung banners, called for tourists to boycott Montana, and on rare occasions even interfered with hunts—which got them arrested. TV captured much of the action with remarkable speed. "You could go back at the end of the day and watch yourself on the 5 o'clock news," Kropp says.

By 1991, the Montana legislature had wearied of the arguments, the controversy, the threatened boycotts, and the public relations black eye for the whole state in general and hunters in particular. Lawmakers ended the bison hunt.

DISEASE CONCERNS

For the next 14 years, bison that left Yellowstone continued to die, but not from hunting. For a time, wardens and park rangers shot them in the field, donating the carcasses to Native American organizations and charities. Later, traps set outside the park by the Montana Department of Livestock and federal agencies captured thousands of straying bison, which were shipped to slaughter.

Wild bison are tolerated only in small areas of Montana because roughly half the animals consistently test positive for exposure to brucellosis. After decades of work and millions of dollars in expenses, brucellosis has been nearly eradicated from the United States. Wildlife in the greater Yellowstone area carry the last major reservoir of the disease. If just two Montana cattle from different herds test positive within a 12-month period, as happened in 2007-08, the state temporarily loses its brucellosis-free status, reducing the marketability of Montana beef and requiring costly testing by stockgrowers.

Cattlemen, wildlife protection groups, hunters, Park Service staff, and others have long argued about the legal, scientific, economic, and political issues surrounding the disease. Consensus has been lacking, threats of lawsuit have been common, and debates are unlikely to end soon. Straying bison continue to be "hazed"—chased back into the park by mounted riders, vehicles, ATVs, and helicopters—in late winter and spring to reduce chances of the wild ungulates infecting cattle with brucellosis. When hazing fails to keep bison in the park, the animals are trapped and hauled to slaughter. Sometimes, only a few dozen die this way. But in 2007-08, nearly half the herd was killed.

ERIK PETERSEN

THE HUNT RETURNS Photographers document the Clement family, of Belgrade, field dressing the first bison killed as part of Montana's new and improved hunt. The animal was shot by Buddy Clement, 17, near Gardiner on November 15, 2005.

The ongoing controversy notwithstanding, some progress has been made in finding compromise. Owners of two properties near the park voluntarily removed their cattle from areas where bison like to roam. That reduces the already small risk of bison transmitting brucellosis to livestock. And it has provided a little extra room for migrating bison, albeit in small parts of the state and for limited periods each year.

That extra roaming room has opened the door for a new hunting season, during which hunters can pursue bison according to the rules of fair chase—which dictate that game animals have a sporting chance of escaping. Throughout the 1990s and early 2000s, many Montana lawmakers argued for restoring the hunt. They said it didn't make sense for state and federal employees to kill hundreds of bison each year when hunters would gladly pay for the opportunity. FWP agreed, but department officials insisted a new hunt would have to be conducted in ways the public found acceptable. That meant no game warden escorts and, most important, training for all hunters taking part (see sidebar on page 12). "The idea was to make a substantial change from the old hunts of the 1980s," says Pat Flowers, FWP regional supervisor in Bozeman. "We wanted to re-engage the average hunter to look at bison as a big game animal. They hadn't had that opportunity in a long time."

The first of Montana's new bison hunts began in late fall of 2005. No one knew what to expect.

SOME SIZZLE, THEN SILENCE

Buddy Clement, then a 17-year-old high school student from Belgrade, Montana, killed the first bison of the new hunt on November 15 near Gardiner. Accompanied by his parents and brother, he suddenly found himself the subject of a press conference that included two dozen reporters. "I didn't know it was as controversial as it was," says Clement, now a wildlife biology student at Montana State University, recalling that bitterly cold morning. "It was just going out hunting for me."

But media interest soon waned because few protesters appeared and hunters often walked for miles without seeing a bison or firing a shot, similar to other big game hunting. The spectacle was over. "There was nobody wanting to have a press conference with me," says Tom Pulcherz, who killed a

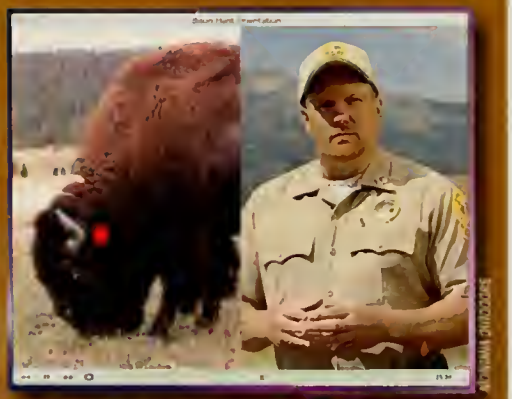
FWP stresses bison hunter education

When the Montana legislature decided to bring back the bison hunting season, it stipulated that hunts had to be conducted under the rules of fair chase: Hunters had to be on foot, and FWP officials could not tell hunters the specific location of bison. As is the case with other types of big game hunting, it was up to bison hunters to find their own prey.

"It was clear to us that the eyes of the world would be on hunters and the state as people watched to see if the new hunt was a repeat of the past," says Mel Frost, FWP regional Communications and Education Program manager in Bozeman.

During the first two new hunting seasons, FWP required everyone who drew a bison hunting license to attend an orientation session conducted by department staff members. During subsequent hunts, bison hunters have instead been sent a comprehensive DVD detailing regulations, safety concerns, effective shot placement, and field dressing. On the DVD, FWP officials warn hunters to prepare for hard labor after the kill, because a bull bison can weigh as much as a ton. They also point out that bison advocates may be in the field.

"We emphasize that their hunt could be taped, and that the footage could be shown around the world," says Frost. "The bottom line is that we want hunters to conduct their hunt according to the ethical standards required for other big game, and for them to show bison the respect these great animals deserve."



AIM HERE On the bison hunt instructional DVD, regional warden captain Sam Sheppard explains where to shoot the animal, how to hunt safely, and what to do if bison advocates are nearby.

COURTESY TOM PULCHERZ

COLD BUT QUIET With his friend Ken Barrett, Tom Pulcherz might poses with a young bull he killed in February 2008. Unlike 20 years earlier, bison hunts like Pulcherz's attracted little attention from news organizations. Because the hunts were conducted in a way that generated little controversy, they proved uninteresting to the media. Says Pulcherz, "There was nobody wanting to have a press conference with me."

bison roughly two years later, in February 2008. Pulcherz, a retired U.S. Forest Service official, wasn't looking for public attention. Just the opposite. He was trying to reconnect with the spirit of early conservationists like Theodore Roosevelt and George Bird Grinnell. In the early 20th century, these hunters helped save America's remaining bison and other dwindling big game populations by establishing a public lands system and also by advocating for regulated hunting seasons.

Using traditional wood-and-rawhide snowshoes, Pulcherz and hunting partner Ken Barrett sweated their way across an arm of frozen Hebgen Lake to reach a peninsula known to attract bison during winter. They eschewed conveniences such as Polarfleece and relied on wool clothing for warmth. Pulcherz carried a replica of an 1885 .45-70 Winchester with open sights. The weather during that February hunt was brutal, with temperatures dropping to near zero and snow blowing sideways.

On the fourth day of hunting, after turning down other opportunities, Pulcherz selected a young bull. He toppled the bison with a single shot to the heart, fired from about 35 yards. Then the work began. Even an immature bull bison weighs twice as much as an adult bull elk. The men spent hours field dressing and skinning the animal before dragging the meat on a sled to a road several hundred yards away. Even in the cold weather, the work had to be done quickly. A bison's thick hide and massive bulk trap heat that can spoil meat if the animal isn't butchered immediately and transported to cool storage.

Despite the difficulties, Barrett and Pulcherz say the hunt was well worth the effort. "It was better than driving up on a snowmobile, getting off, and popping one in the head," says Pulcherz, who prefers to hunt on foot in the backcountry.

Other hunters have taken a more practical, meat-gathering approach. Kremer, the sole successful hunter last season, was aware of how difficult it would be to handle a 1-ton carcass in the field. He says he "waited until (the bison) was in a really good spot" before shooting. Then the hunter and his family—brother, wife, parents, and two teenage children—tackled the field-dressing job, dulling numerous knives cutting through and removing the bison's thick hide. They got lucky when a neighbor with a horse came by and helped haul the meat a quarter mile to a road.

Those who've killed bison say the animals aren't hard to approach; the brawny, impassive beasts face down threats rather than run. The challenge is in precise shot placement—a killing shot to the brain requires hitting a target the size of a cell phone—and the skill to handle a huge carcass quickly and efficiently, sometimes in tough conditions.

COMPLICATIONS CONTINUE

Despite the improved hunting conditions, Montana's new bison season is not without controversy and complications. People still oppose bison hunting, often on the grounds that so little of the state has been made available for the wild animals, especially for year-round use. "No habitat, no hunt. We're

maintaining that position," says Stephaney Seay, spokeswoman for the Buffalo Field Campaign (BFC), an advocacy group for the park's bison. Group members do not disrupt the hunt, however. "We oppose it, but we don't interfere," she says. Nevertheless, BFC members are in the field every winter with video cameras, which is why FWP informs hunters that their actions could be videotaped and posted on the Internet. Sam Sheppard, FWP warden captain in Bozeman, tells bison hunters that BFC members—as well as other protesters—have every right to be in the field. Documenting a hunt is not interference or harassment under state law, he says.

Another component of the bison hunt is the presence of tribal hunters. The Confederated Salish and Kootenai Tribes of Montana and the Nez Perce of Idaho have federal treaty rights allowing them to hunt off their reservations. (The Shoshone-Bannock Tribe in Idaho also has approached FWP officials about establishing their own hunt.) Montana acknowledges the rights of the Nez Perce and the Salish-Kootenai to hunt in accordance with the provisions of their treaties. The treaty language allows tribal members to hunt only on "open and unclaimed" land, which land managers and tribes have agreed means national forest and Bureau of Land Management lands. Tribal wardens travel to the Yellowstone area to enforce those rules.

Though Montana does not dispute the rights of tribal hunters, negotiating details can be challenging. The state's goal, Sheppard says, is "fair and equitable sharing of the resource." While asserting they are entitled to far more bison, the Confederated Salish and Kootenai Tribes and the Nez Perce in recent years have agreed to divide between them the same number of bison as are provided to the public by FWP permits. If Montana issues 50 tags to the public, for instance, the tribes provide a total of 50 tags to their members. The participation of additional tribes will further complicate matters. "Each year, it's going to be a new negotiation," Sheppard says.

The bison don't make things any easier. Like other game animals, the shaggy grazers are frequently uncooperative. Bison herds often abruptly decide to migrate considerable distances, appearing or disappearing overnight. That means hunters sometimes can pick from many targets or—as was the case this past season—see no bison at all.

Even with the uncertainty of finding a bison and the grueling task of butchering and hauling the meat of a harvested animal, the hunt appeals to many people. This year more than 10,000 Montana and nonresident hunters applied for the state's 44 nontreaty licenses. That enormous interest, says Flowers, the FWP regional supervisor, reflects the huge appeal of bison. "Hunters are excited about taking part in a hunt they thought they'd never see in their lifetime," he says. The fact that Montana now offers an opportunity to hunt bison, even if to only a handful of lucky hunters each year, is a notable conservation achievement. A century ago, only a couple dozen wild bison remained in the United States, all of them in Yellowstone. Today, after decades of conservation work, bison are bountiful enough to be hunted again in Montana.

The hunt isn't easy, and it's still controversial and complicated. But at least it's under way.

Even if you don't hear much about it.

▶ *To learn more about Montana's bison hunt and apply for a license for the 2010-11 season, visit fwp.mt.gov and search for "bison hunt."*

COMEBACK After decades of protection, the Yellowstone bison population is now large enough to sustain a regulated hunting season in Montana.

KERRY T. NICKOLI

INTO THE
"Montana's Premier Wild Game Processor"
HAPPEL'S CLEAN CUT MEATS LLC
4700 Gooch Hill Road
Bozeman, MT 59718 (406) 587-8972
Dec. '08
DEER
BREAKFAST Links
Weaver, Matthew
NOT FOR SALE

Behind the closed doors of a game processing facility

MEAT LOCKER

BY **TOM DICKSON**
PHOTOS BY **ERIK PETERSEN**

Like many big game hunters, I butcher the wild animals I kill. It started simply as a way to learn how they were put together. Then I realized I preferred maintaining full control and supervision of my harvest from field to freezer. I'd heard horror stories of deer carcasses piled outside game processors during peak season, or how you could never be sure the elk you'd so carefully dressed and cooled down in the field was the same animal you picked up as a bag of white packages a few weeks later. My venison is too precious to let strangers handle.

That's not to say I haven't been tempted. Many of my friends have their antelope, deer, and elk commercially processed. And there are times, especially when I'm dragging the third whitetail doe of the season across a field to my vehicle, when the idea of dropping it off at a game processing facility then picking up 40 pounds of perfectly trimmed meat a few weeks later sounds appealing.

Still, I wondered: Were professional facilities up to my high standards of cleanliness? Would I get back the same meat I brought in? Was the convenience worth the cost? I decided to find out. >>

INTO COLD STORAGE

It's mid-December, and late-season hunters are bringing their deer and elk to Happel's Clean-Cut Meats, a game processing facility a few miles west of Bozeman. As a pickup pulls in with a cow elk in the bed, owner Lyle Happel takes me and photographer Erik Petersen through the entire game processing procedure.

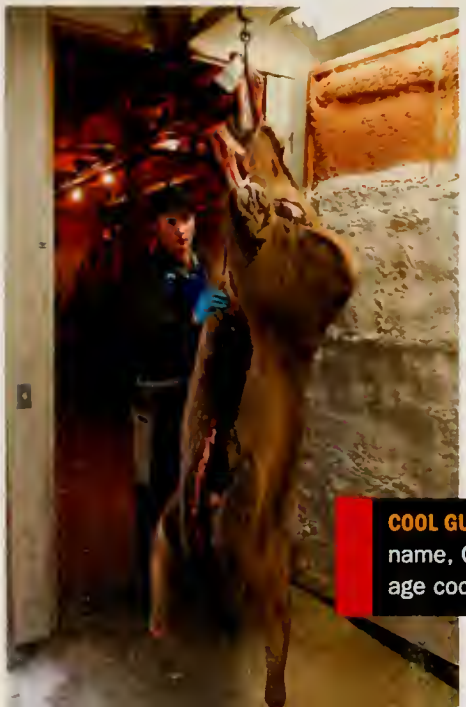
Casey Martin, a member of Happel's crew, hooks the animal directly from the truck bed and hoists and weighs it, then moves the elk into a 35-degree cooler, where it ages for 7 to 14 days. Securely attached to the carcass is a card indicating the name of the hunter and what particular meat products he requested. Today only a dozen or so elk and deer hang in cold storage. Happel (who prefers the term "wild game processor" rather than "butcher"), says that during peak time—the last week of November and first week of December—his cooler space holds up to 140 deer and 40 elk.

The carcasses, which hang on meat hooks attached to trolley rollers on a ceiling-mounted rail system, can be quickly moved from room to room. Happel says the carcasses should never touch the floor. "If you pull into a game processor and see a pile of deer on the ground, turn around and walk out," he warns (Happel is secretary-treasurer of the Montana Meat Processors Association). "If there are piles, and yours gets to the bottom, it's getting 'marinated' down there, and that's a marinade you don't want to taste."

After aging, the elk is skinned and then a torch is used to singe stray hairs. (Hides are sold to a local buyer for a few dollars each.) The next step is called "breaking down." In one hand Happel holds a large hook to maneuver the carcass, then uses a knife in the other to trim fat, stomach contents, and other contaminants. "I tell people I've gotten so good with this hook I can scratch my eye with it," he says. With a reciprocating saw, he cuts off the lower portion of the ribs, leaving enough for chops. At this stage, the meat is still in large chunks and partially attached to the carcass.

The carcass is conveyed to the cutting area, which looks like any grocery store meat department. A cutter checks the tag to see what has been requested, slices major muscles off the skeleton, and trims the meat to create uniformly shaped pieces. These large cuts, called primals, are flash-frozen for several hours before being cut with a bandsaw into perfectly uniform steak portions. The final step is to wrap the steaks in plastic and butcher paper, then tape and label them with the hunter's name and precise cut. "There's no such thing as a generic 'elk steak,'" Happel explains. "Each cut comes from a particular part of the animal, and we label them that way." Happel says that the four most tender cuts, besides the tenderloin, are the ribeye, the top loin or New York strip, the top sirloin, and the top round. The highest-quality cuts are on the rear part of the spine. "Then the meat gets tougher as you go farther up the spine toward the head or down into the legs," he says.

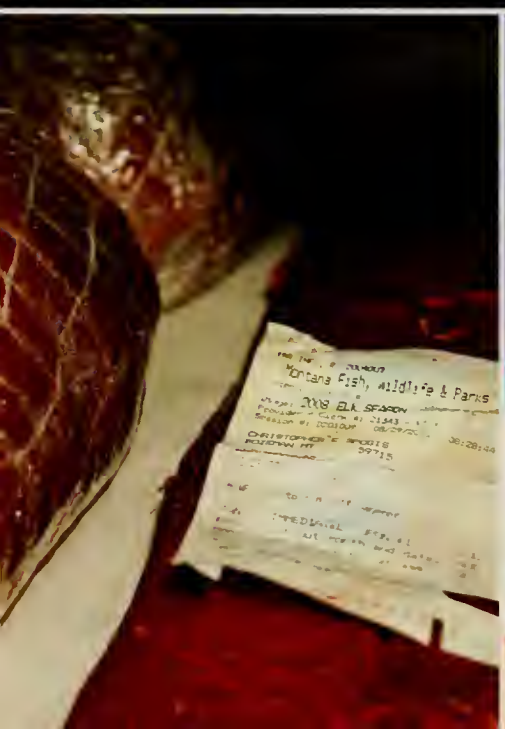
It's important to know the cut in order to use the appropriate cooking technique. For instance, tender cuts such as the ribeye taste best cooked quickly over high, dry heat,



COOL GUY After attaching a tag with the owner's name, Casey Martin transfers a cow elk into a storage cooler, where it will age for 7 to 14 days.

Tom Dickson is editor of Montana Outdoors. Erik Petersen is a photographer at the *Bozeman Chronicle.*

DONE IN HALF AN HOUR It takes Happel's crew just 30 minutes to process an elk, not counting cooler and freezer time. Above left: Martin skins an elk with just a few well-practiced strokes of the knife. Above right: After cutting away stomach contents, bloodshot meat, and other contaminants from a deer carcass, Happel uses a torch to remove stray hairs. Below right: Carcasses are transferred into the cutting room on meat hooks attached to trolley rollers on a ceiling-mounted rail system. This way, they can be moved without touching the floor. "If you go into a facility and see deer on the floor or ground, turn around and walk out," advises Happel, secretary-treasurer of the Montana Meat Processors Association. Below: A cutter uses a meat hook to maneuver a "primal" as he removes excess fat and trims the large portion of meat into a uniform shape. Below left: From beginning to end of the butchering process, the FWP tag required for lawful possession stays with each hunter's game animal.



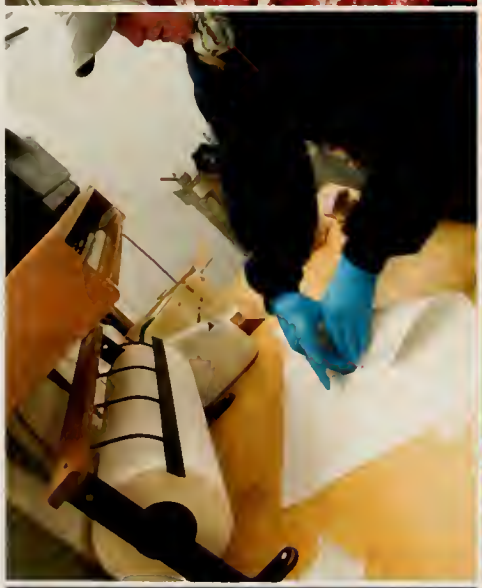
such as by sautéing or grilling. Shoulder blade roasts and other tough cuts are best cooked slowly over low, moist heat, such as by braising and stewing.

NO MIXING

Like most game processors, Happel's prides itself on fresh ground meats and jerky. Happel says his clients receive hamburger and fresh sausage from meat trimmed only off the animals they bring in. "There's none of that 'throwing into the pot' stuff here," he says. He advises hunters concerned about the possibility of "meat mixing" at the facility they visit to always ask beforehand.

Happel's staff makes a basic venison hamburger with 7 to 10 percent suet (beef fat), but they'll add pork fat or use no fat if requested. In an industrial grinder that can hold up to 150 pounds of meat, staff member Brad Flategraff also makes bratwurst, beerwurst, and Italian and Polish sausages using casings made of hog intestines—the same as you'd find at a grocery store. In a back room fragrant with spicy smoked meat, Lyle's 86-year-old father, company founder Fred Happel, still slices venison meat by hand and seasons strips with a secret recipe to make jerky, sausage sticks, and summer sausage.

While impressed with the speed and cleanliness of the operation, I'm disappointed that a fair amount of meat goes into waste buckets. It takes me six hours to butcher a deer,

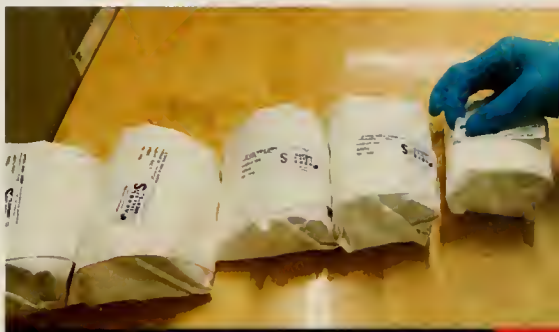


THE FINAL TOUCHES Clockwise from top left: Trimming primals before flash freezing; cutting a frozen loin into uniform steaks; labels for each cut of meat; company founder Fred Happel, 86, continues to help by making jerky strips with his secret seasoning recipe; grinding hamburger; Brad Flategraff puts fresh sausage meat into casings before trimming; wrapping trimmed steaks in plastic and butcher paper.

because I try to retain as much meat as possible. Sometimes that means painstakingly filleting out small slivers of meat. Happel's crew finishes an entire deer in 20 minutes, an elk in 30 minutes. With that speed comes a greater loss in the amount of meat they retain, known as "yield." "We don't want to be wasteful and try to give as good a yield as possible," says Happel. "But time is money, so we can't spend all day on an animal." He admits some customers are disappointed in the amount of meat their animals produce. "But we document it all. We rate an animal upon completion from 1 to 10, with 10 being the best potential for yield, and we tell the hunters what the yield is at pickup time. Some animals come in shot in all four quarters, and there's just not much meat left."

Happel says most 350-pound field-dressed elk are reduced to 140 pounds of trimmed, frozen, wrapped, and boxed portions. A 40 percent yield is average, he says, and 50 percent is considered very good. I called a few other Montana game processors, and they quoted the same yields.

I continue to derive great pleasure from processing my kill from field to table, and for now I'll keep butchering my own big game. But if I ever decide to hand over the deer, elk, or antelope I kill to a game processor as clean and efficient as Happel's, I'll know it's in good hands.



IN GOOD HANDS Packages are labeled with the hunter's name and the cut of meat.

Game Processor Gets Hot Discussing Improper Cooling

Want to get Lyle Happel's blood pressure up? Bring him an elk that hasn't been cooled properly in the field. "A lot of the bulls we got in this fall had green meat, especially in that thick area around the neck and shoulders," he says. "We had to throw all that away. What a waste."

It doesn't have to be that way. Happel says that even in warm weather, big game animals can be cooled down to save the meat. The key is to cut open to air circulation all thick sections—neck, shoulders, and hips—and then get the animal up off the ground as soon as possible. "An elk starts out at 102 degrees," says Happel. "You've got five or six hours to get that down to 50 degrees or lower. But you also don't want to trap that heat by freezing the animal rapidly. You have to open the thicker parts so the heat escapes."

After gutting the animal, remove the trachea (windpipe) and esophagus. "Bacteria in the partially digested food can contaminate the neck meat," Happel says. Use thick sticks to keep the ribs and brisket spread apart and the body cavity open to air. Next, raise the animal off the ground by hanging it or dragging it over logs. Create air space between the carcass and the ground, even if it's just a few inches.

COURTESY HAPPEL'S CLEAN-CUT MEATS

This elk carcass has been "butterflied" by having the spine split lengthwise from the inside, opening the thick, warm bone to cool air.

Use several gallons of water to clean and cool the carcass. "When it's warm, the water evaporates. That cools the meat and it also dries the wet environment where bacteria can grow. When it's cooler outside, you don't want to use much water. And never wash a cooled carcass or meat," Happel says, because that just invites bacterial growth.

The next step is to "butterfly" the spine. "This is not something most hunters do, but they should," Happel says. Splitting the spine lengthwise opens up the thick vertebrae and surrounding meat to cooling air. Cut the spine from the inside, down through the bone but not through the hide, using a small hatchet and hammer. Place the hatchet blade on the spine and rap the back with the hammer to break the bone. A buck saw also works. "You don't need to do the entire animal, just from where you cut the head off down to about where the tenderloins start," Happel says. "This is the way you save the neck, shoulders, and a lot of the forward loin."

The final step is to expose both hip sockets to air. "The thigh bone is thick and retains the animal's heat, so you need to expose it to ambient air so the heat will dissipate," Happel says. Skinning cools the outside of the animal, he explains, but does little to cool the portions deep in the muscles. Happel makes a cut along the inside of the main leg bone from the stifle joint (the knee equivalent) through the thick part of the thigh to the ball-and-socket joint in the pelvis. He then uses two stout sticks to keep the deep incision open to air.

Once the elk is dragged or hauled to the vehicle, Happel suggests placing it on pallets in the truck bed so the rushing air during the drive gets under and through the animal. Then get it to a game processor as soon as possible. If you take it home, he says, hang the animal with the hide on. "A lot of guys think taking the hide off will cool the animal, and that's true to a degree, but it's far more important to cool the inside of the animal than the outside," he says. "And you want to keep the hide on to retain moisture and keep the meat from drying out."

Just getting the elk out of the field to a processor doesn't mean it will be okay if the carcass hasn't begun cooling down in the field. "I've had bull elk sour even when they were in my cooler because they stayed too warm for too long beforehand," Happel says.

Even if a hunter follows all of Happel's advice on cooling a carcass, some days are just too warm—or the distance from the kill site to the vehicle is too far—to prevent spoilage. "That's something you've got to consider before you pull the trigger or release that arrow," he says. "It pains me to see an elk that's sour. That animal sacrificed its life for you, and now it deserves the most respect a hunter can give it." ■

BECOMING AWARE OF THE BEAR

As Montana's grizzly numbers grow and the bears remain active well into the big game season, hunters need to be more alert than ever. **BY SCOTT MCMILLION**

If you hunt in grizzly country—which includes most of the western one-third of Montana—chances are you're breaking the rules.

That's because you creep around. You hunt during early morning and evening. You mask your scent and walk into the wind. You usually hunt solo. You stay intensely focused on your prey. This is what hunting requires.

But it's also the opposite of what bear safety experts say you should do in grizzly country. Their advice? Make plenty of noise. Travel in groups. Avoid the hours of dawn and dusk, when bears are most active.

Most times, hunters get away with breaking these rules. Few see a grizzly, and even fewer have what wildlife officials call an "encounter." Grizzly attacks remain extremely rare in Montana. But the potential for dangerous encounters remains. And because of expanding grizzly numbers and bears going into hibernation later in the fall, the risk is growing. Though the odds remain slim that you will ever run into a grizzly, Montana Fish, Wildlife & Parks officials are increasingly warning hunters in bear country to take steps to avoid encounters and be prepared for a bear attack. Because they do happen.

LIKE A RAG DOLL

Sonja Crowley and Joe Heimer were looking for elk on November 8, 1996, but they found grizzly bears instead. It happened just north of Yellowstone National Park's boundary, on an unseasonably warm day that left the ground covered with thick, sticky snow.

Crowley, of South Dakota, and Heimer, her Montana guide, saw the female bear from about 60 feet away and three cubs 100 feet farther back. The hunters stopped moving, then backed off another 50 feet and stepped behind a bush. They didn't shout or make other noises, but something attracted the bear's attention and she charged. Heimer, who had spent a lifetime in grizzly country, was carrying his client's gun but held his fire, waiting for the bear to veer off. He'd been bluff-charged before.

KERRY T. NICKOU

WHO'S THERE? A grizzly bear will almost always do its best to avoid hunters if it can smell or hear them approaching.

But the bear didn't stop, so Heimer fired a round from the 7mm Magnum when the grizzly sow was almost to his gun muzzle. Somehow he missed and the bear tackled him, knocking the rifle from his hands and tearing into his legs with teeth and claws.

Heimer fought back, twisting the bear's upper lip in one hand and slugging its head with the other. He thinks he slowed the bear down, kept it from his vitals. Unfortunately, after the grizzly dropped him it focused instead on Crowley, who had dashed for the gun in the snow.

She didn't get far before the bear grabbed her by the head, crushing her jaw and tearing apart her face. The grizzly slung her around like a rag doll, Heimer later recalled. Crowley remembered hearing the teeth crunching into her head.

"DANGEROUS SPORT" BY PHILIP R. GOODWIN, 1882-1935. NEIL E. SNYDER COLLECTION

DON'T SHOOT A painting from the early 1900s depicts a hunter about to shoot a grizzly that appears to be standing up to investigate danger. Grizzly experts say a confrontation like this today would be best resolved using bear spray, not a gun.

Heimer staggered to his feet and grabbed the gun, but realized he couldn't shoot and risk hitting Crowley, who was completely limp. Then the bear dropped her and ran back toward its cubs. Heimer began tending to his client. As he wrapped his shirt around her mangled face, Crowley pointed. The grizzly was coming back.

This time, Heimer didn't wait. He put a round through the bear's shoulder and it dropped.

He turned again to Crowley and her wounds, but the bear wasn't done. It had begun another charge. This time, Heimer put it down for good.

The Heimer-Crowley story illustrates a few things about grizzlies. The bears have a "safety zone," which might be just a few yards wide or 100 yards wide, depending on circumstances. You enter that zone at your own risk. Females with cubs are fiercely protective. Running can trigger a chase response. Grizzly bears don't die easily, even if you're an experienced shooter with a high-powered firearm.

Heimer and Crowley are 2 of the 22 people who have been injured by grizzlies since 1990 in the Montana section of the greater Yellowstone National Park area, according to statistics kept by Kevin Frey, FWP bear management specialist in Bozeman. That's an average of only about one per year. In other parts of the state, injuries from bear encounters are even rarer. Tim Manley, FWP bear management specialist in thickly wooded northwestern Montana—home to many grizzlies—has not heard of a single hunter injured by a bear during 16 years on the job. Along the Rocky Mountain Front, grizzlies have injured only two hunters in the last 25 years, according to Mike Madel, bear management specialist in Choteau. In western Montana, Missoula-based bear management specialist Jamie Jonkel says he knows of only one attack on a hunter since the 1960s. But that one, sadly, was fatal. In 2001, Timothy Hilston, a 50-year-old Great Falls man, was killed by a female grizzly and her cubs in the Blackfoot-Clearwater Wildlife Management Area while field dressing an elk he had just shot.

Frey once calculated that only 4 out of every 10,000 hunters in the Yellowstone area have bear encounters, which, while they can scare the pants off people, usually end without injury. "You have a bigger chance of getting hurt in a car," he says. But he also calculated that of the 22 attacks near Yellowstone, 72 percent of the victims were hunters.

Frey says grizzlies usually move away from the sound or smell of an approaching human. But because hunters are usually sneaking quietly through the woods, trying not to make noise, they often surprise a bear, triggering a defensive attack.

FOOD OBSESSED

Further increasing the odds of a grizzly encounter is the fact that hunters take to the field right when bears are most fixated on food. In fall, bears enter a stage called hyper-

W. STEVE SHERMAN

NO SHARING A grizzly lunges toward scavengers as it guards an elk carcass. In fall, as bears single-mindedly devour food to carry them through winter hibernation, they pay less attention to approaching hunters, increasing the risk of an accidental encounter.

Scott McMillion, of Livingston, is a freelance writer, a senior editor for Montana Quarterly, *and the author of* Mark of the Grizzly: True Stories of Recent Bear Attacks and the Hard Lessons Learned.

LUKE DUBAY/MONTANA OUTDOORS

Carry a Can of Bear-B-Gone

FWP's four bear management specialists strongly endorse bear pepper spray for hunters and others recreating or working in grizzly country. Some tips on which sprays to buy and how to use them:

- Of the several brands on the market, choose one designed specifically for use on bears and registered with the U.S. Environmental Protection Agency.
- The canister should weigh at least 7.9 ounces and the spray must include active ingredients—capsaicin and related capsaicinoids, the chemicals that make peppers hot—at a level of at least 1.3 percent, preferably 2 percent.
- The product should have a spray time of six to nine seconds, enough to create a sizable cloud, and it should have a range of 25 feet.

phagia, a single-minded lust for calories in advance of their long winter's sleep. When grizzlies find food, they can become so engrossed in eating they pay less attention to their surroundings than usual. That's when a stealthy hunter could inadvertently stumble upon a bear.

How a grizzly reacts depends in part on how it perceives the intruder in its safety zone. Bears read the intruder's body language to help make that decision. That's why most bear experts advise people to avoid eye contact but speak to the bear, saying things like "Whoa, bear. I'm leaving, bear." Of course, bears can't understand the words, but they seem to respond to a reassuring, nonthreatening tone and posture. "The key is to not yell or do anything the bear will perceive as a challenge," says Frey.

GRIZZLY AHEAD? In prime bear country like this, hunters should be especially alert for tracks, scat, and movement that could indicate a nearby grizzly.

DONALDMJONES.COM

Hyperphagia can also mean bears are especially protective of food supplies. A grizzly that's feeding is more likely to be aggressive than one that's simply ambling along.

Another factor that could increase bear encounters with hunters is delayed bear hibernation. Twenty years ago, most grizzlies were asleep in their dens by mid-November. But during the recent spate of warm falls, bears have remained active throughout the general hunting season, adding to the possibility of encounters. "We're now spotting bears well into December," Jonkel says.

What's more, Montana's grizzly bear population is growing and expanding, with bears turning up in areas where they haven't been seen in decades. As core habitat fills in the Greater Yellowstone and Northern Continental Divide ecosystems, bears are dispersing into landscapes their ancestors once prowled. Last summer, a grizzly was captured near Loma, halfway between Great Falls and Havre. In recent years, state and federal bear specialists have captured and radio-collared grizzlies near Red Lodge and in the Madison and Gravelly ranges. One was killed as far west as Idaho's Clearwater River drainage, and another not far from Dillon. They've also been confirmed near Anaconda. Grizzly bears are not relegated to wilderness and national parks anymore, says Frey. "If it's good grizzly bear habitat and anywhere near those core areas, over time you can expect bears to work their way into it," he says. Hunters need to know this. And not just big game hunters.

NEVER SAW THE BEAR

Brian Grand and three companions were working the brushy bottoms of Dupuyer Creek on the third day of pheasant season in 2007. They had three dogs with them and were shooting a few birds out in the prairie, roughly 15 miles east of the Rocky Mountain Front.

It was about 1:30 in the afternoon when all hell broke loose. Grand didn't know it, but his search for pheasants was taking him

- Once you select a spray, make sure you're familiar with it. Practice taking it in and out of the holster, which you should carry on your belt or backpack strap.
- Learn how the safety clip works.
- Test the spray with a quick blast to make sure the canister works, but do so before you begin hunting. Test it in an isolated area far from others, with the wind at your back. It's powerful stuff.
- Bear spray does no good in the bottom of your pack or in your car. Keep it handy in cooking areas, in your tent at night, and while field dressing an animal or packing meat out.
- If a bear charges you at close range, aim slightly down and toward the animal. Adjust for any crosswinds. Give the bear a brief dose when it gets to within about 25 feet, and be ready to spray again if the charge continues.
- Once the bear retreats, you should do the same. But don't run. This can trigger a chase response. Slowly back off.
- There's a chance after a discharge that you'll get some spray on yourself. The discomfort can be significant, but it's temporary and doesn't compare to what a grizzly bear could have done to you.
- Don't store bear spray in your car on a hot day. Canisters have been known to explode.
- Pay attention to the expiration date.
- Bear spray is not like bug spray. Don't apply it preventively to skin, tents, boats, clothing, or other gear.

directly toward a grizzly bedded in a thick copse of red willows. When he saw the bear, it was 30 feet away, in full charge. Grand tried to step out of the way, but the bear was on him. "It just literally took me out," Grand says.

He wrapped his arms around his neck and tucked into a fetal position. The bear rolled him over three or four times, biting and clawing. "Somewhere in that, my gun went off," Grand says. "I don't even remember it."

Grand's injuries put him in the hospital for six days. He estimates the attack lasted all of ten seconds.

His nearby companions heard the ruckus, but never saw the bear.

Madel says there have been several other incidents along the Front where pheasant hunters encountered grizzlies. In all the other cases, the bears ran off without incident.

In Grand's case, the hunters had already passed by the bedded bear once, and Madel says it was certainly aware of them and possibly was feeling more pressured when they returned. When it started running, it might have been chasing a dog or trying to escape to thicker cover, he says. Judging by the amount of loose bear stool at the scene of the attack, Madel suspects the animal was highly stressed. "Then the hunter was right there, an immediate threat, so the bear attacked and then was off," he says.

There are other lessons here. Grizzly bears rarely kill people, though they could do so with ease. Usually when they see humans as a threat, they leave once the threat has been neutralized. Most people walk away from a grizzly attack (though the wounds can last a long time). Also, you don't have to be hunting big game in the mountains to run into grizzlies. Bird hunters in and near grizzly range need to be careful, too.

LIVING WITH WILDLIFE FOUNDATION

Keep food in, bears out

The U.S. Forest Service now requires hunters and other campers to follow strict food storage guidelines to reduce bear conflicts. All food and garbage, including food for livestock, must be suspended at least 10 feet off the ground or stored in a hard-sided camper, vehicle trunk, cab, or bear-resistant container approved by the Interagency Grizzly Bear Committee. To see the boundaries where the regulations apply, check the website of the national forest you hunt.

For a list of IGBC-approved bear-proof containers, visit igbconline.org/html/container.html.

ANCIENT SKILLS

Does all this mean hunters in grizzly country need to start hunting in groups, singing, and blowing whistles? Obviously not, says Jonkel. But hunters need to "relearn our ancient skills," the bear management specialist says. He notes that humans and grizzlies coexisted in North America for thousands of years. Native Americans, armed only with weapons of stone and wood, lived among much more bounteous grizzly populations. They survived by staying constantly alert. Bear experts advise modern hunters to do the same: Watch for scat, tracks, and other sign; avoid thick cover; steer clear of carcasses; and don't become so focused on following prey that you stumble onto a bear. "You always have to 'think grizzly' when you're out there," Jonkel says.

"When you shoot, be aware that now you've set the table," he adds. Grizzlies aren't likely to run toward a rifle shot like it's a dinner bell, but they know that people with guns can produce a big meal. In some cases, they've been known to chase hunters off a carcass. If that happens, back off and let the bear have its meal.

Another safety essential: Carry bear spray. Tom Smith, for many years a biologist for the U.S. Geological Survey and now at Brigham Young University, has studied bear attacks for nearly two decades. He looked at 72 instances of people using bear spray to defend themselves from aggressive grizzlies in Alaska. In those cases, 98 percent of the people suffered no injuries and the rest suffered only minor injuries. He also analyzed 300 incidents in which people used guns to protect themselves. In those cases, 40 percent were injured, including 23 deaths and 16 severe injuries.

Some hunters still insist bear spray is impractical and awkward to reach, especially when they already have both hands occu-

DEBRA KRANTZ

Carcass management in grizzly bear world

Most advice for hunting in bear country is easy to follow: Pay attention, watch your surroundings, have a hunting partner nearby, and carry bear spray.

A harder one is keeping food items—which include your dead game animal—out of reach of a bear. That means keeping the lowest point at least 10 feet off the ground. That's a challenge with a 500-pound elk carcass, even if you quarter the animal, but it can be done using ropes and pulleys.

Sometimes hunters have little choice but to leave their meat overnight until they can pack it out the next day. To the rescue is a relatively inexpensive device designed to repel small animal pests that also keeps bears away from meat. The Critter Gitter is a lightweight gadget, small enough to fit in a pocket, that uses sensors to detect heat and motion. When an animal approaches, it emits a 110-decibel

pied by a firearm. But Smith notes that guns aren't always accessible during much of the hunting process, particularly when you're field dressing, butchering, or hauling meat. Your gun might be over your shoulder or leaning against a tree. But bear spray can be right there in the holster on your belt.

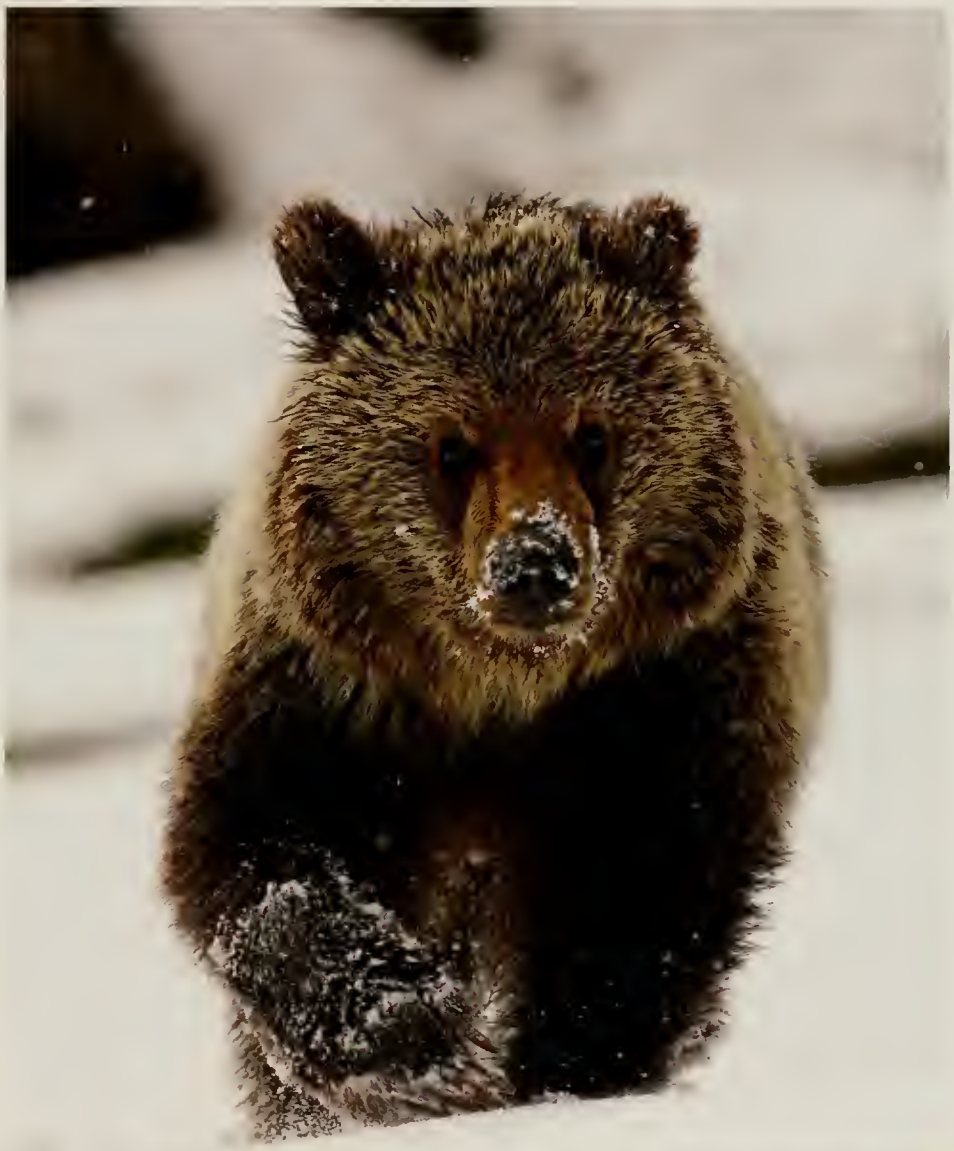
What's more, bear spray spews a wide fog of intensely hot pepper solution. When people shoot charging grizzlies, they often miss or wound the bear, making it even more aggressive. Most bears that catch even a whiff of the spray turn and run.

Despite the spray's effectiveness, Frey cautions hunters to not put themselves in a position where they have to use it. Avoid trouble in the first place, he says. The best way to do that is to pay attention. Open your eyes, your ears, and your nose. Think grizzly.

Successful hunters are good at navigating in the natural world. And they respect its potential dangers, such as getting lost, tumbling off a cliff, or succumbing to hypothermia. They do what it takes to avoid those hazards by making plans, paying attention, and, when necessary, coming up with alternatives.

Consider grizzlies just another outdoor hazard. Then takes steps to avoid encounters and prepare for an attack. It likely won't happen, but if it does, like any smart hunter faced with a challenge, you'll be ready.

▸ *Visit the FWP website for more information on how to avoid conflicts with grizzly bears. Go to fwp.mt.gov and search "grizzly bear safety." FWP's bear management specialists also recommend the DVD "Staying Safe in Bear Country," available at alaskageographic.org.*



STILL OUT THERE The recent spate of warm falls across much of grizzly country has kept many bears from hibernating until well after big game season begins, increasing the risk of incidents with hunters.

SAM ZIERKE

squawk and flashes bright lights. Then it resets and, if the animal returns, produces a different noise and light pattern. The Critter Gitter was made to repel deer, raccoons, and skunks, but Tim Manley, FWP bear management specialist in northwestern Montana, says it also can be effective at keeping bears off a carcass. The device costs about $50 and is available at crittergittersensor.com.

The Critter Gitter can scare bears away from a carcass left overnight.

Since grizzlies are known to cruise areas where hunters are killing large numbers of big game animals, it's also a good idea to haul the gut pile well away from the carcass. A small tarp or space blanket makes this easier. Grizzlies usually tear into a gut pile before feeding on the carcass. "At least it keeps the grizzly bear busy for 24 hours or so," says Jamie Jonkel, FWP bear management specialist in Missoula.

If you must leave a carcass overnight, move it to where you can see it from 200 yards away, then cover it with a tarp, branches, or clothing. Observe the scene carefully when you return the next morning. A tarp or branches won't protect the carcass from bears, but you'll be able to tell if something has disturbed your kill by any changes to the covering material.

For more information on hunting in grizzly country, visit fwp.mt.gov or centerforwildlifeinformation.org.

MULEYS IN PLAIN SIGHT

Finding mule deer in eastern Montana sage and grasslands often means seeing what's right there in front of you. BY JOHN BARSNESS

There was nothing over there except an open slope, yet something seemed wrong. Perhaps hunters develop a sense that tells them when game is near—but it was more likely we had noticed a shadow. Ben saw the deer first, as one of its big ears flicked, and then it was running, antlers widespread past those big ears, around the point of the ridge. We each took a quick shot that did nothing but throw rocks and dirt toward the buck's rear end.

That big muley had been sitting almost in plain sight, behind a thin fringe of scraggly sagebrush. But even from the opposite hillside, a short ways away, we hadn't been able to see him until he moved. What we had seen, what had kept us looking at that apparently empty Montana slope, was the shadow of his head. It just hadn't seemed right that a shadow could fall across the grama grass without something to make it.

Muleys are often open-country deer. They'll sit contentedly out in sparse cover, brush that barely breaks up their outlines, brush that would make the average whitetail feel downright naked. Mule deer aren't as shy as whitetails, either, which is why

My theory is that the "ridge standers" were killed off, and natural selection produced deer that **rarely stop and look back.**

many hunters consider them "dumb." It's not uncommon for some mule deer to stop on the ridge, allowing a hunter one last shot, or simply stand still and look at you from short range. When learning to hunt deer as a teenager, I was often advised to shout or whistle after jumping mule deer. Supposedly they'd stop and look back. Sometimes it worked, too.

Several years ago a companion and I stood on a badlands promontory in eastern Montana and watched two "hunters" fire a total of 14 shots at a forkhorn muley they'd jumped from a sage-lined coulee below. They had semiautomatic rifles and extra clips. The deer was only 60 or 70 yards off when they jumped it. The buck bounded across the sage in that peculiar stiff-legged mule deer

bounce, known as "stotting." Each fellow emptied a clip trying to intercept that bounce. They were in the middle of their second clip when the little buck stopped at the head of a draw a couple of hundred yards away and looked back, standing broadside, to see what the commotion was about. One of them finally calmed down, sat, and killed the deer with a single, final shot.

Young bucks and does still behave this way, but it's rare to see a decent-sized adult buck stop within range. My theory is that over the years the "ridge standers" were killed off, and natural selection has produced deer that rarely stop and look back.

POPULATION DOWNS AND UPS

Montana has seen great changes in its muley population since statehood. By the beginning of the 20th century, overharvesting had eliminated the deer from many areas of Montana, write Harold D. Picton and Terry N. Lonner in *Montana's Wildlife Legacy*. Numbers increased rapidly from the 1930s to 1950s as a result of regulated hunting seasons and improvements to range conditions by conservation-minded ranchers. Mule deer soon recolonized the entire state. Numbers declined in the 1970s, likely the result of a natural population fluctuation, quickly rebuilt in the 1980s after reductions in antlerless harvest, then declined again. Today the statewide populations of mule deer and white-tailed deer are roughly equal.

Where their ranges overlap, mule deer seem to prefer country that's more up and down than the flatter whitetail habitat. Not only does it suit their temperament better—remember, they're fond of sitting on almost-open hillsides, where they have a view—but such areas are usually less trammeled by people.

There's one coulee in a jumble of rugged breaks in eastern Montana that I've hunted over the years. I've only seen three deer there, but all were muleys, and that coulee lies in an area almost totally dominated by whitetails. It's known to some local hunters as "Blacktail Coulee"—"blacktail" is a common nickname for mule deer over much of the West—because it's one of the few spots in that flat region where mule deer can be found. In badlands that hold both species, whitetails are almost always down in the river bottoms, leaving the rugged breaks and gumbo buttes to the muleys. One time, in some of the biggest, most rugged badlands I've ever been in, I was sneaking up on several bighorn sheep I wanted to photograph. The red sides of those buttes were about as vertical as any non-rock can be, and right in the middle of my stalk I jumped a 3x3 mule deer buck out of a patch of chokecherry neat the top of a hill.

Since mule deer are usually found in sparser cover than whitetails, a common method for hunting them on the plains is to use binoculars or a spotting scope. Spot them from a distance, then make a stalk. This is more difficult than it sounds. Unlike pronghorns, which have abundant white areas that make them highly visible from a distance, muleys blend remarkably well into the tan-gray of autumn hills. At that time of year their coats are almost gray, and even deer standing up can be downright invisible. I once hunted with a friend who had never hunted deer before. We came over a ridge, and on the opposite slope 200 yards away were about 20 muleys, standing and feeding slowly in the morning sun. For the next 15 minutes I tried to explain where the deer were.

"Look, you see that two-trunked ponderosa? Look about 30 feet below it and a little left....There's a big gray rock. A buck is standing just to the right of it...."

When my friend finally shot, he shot the rock.

LOOK FOR PARTS

Experienced deer hunters, whether whitetail experts or mule deer sages, will tell you they look for part of a deer. That's an easy concept to understand when you're talking about stalking one in thick cover, where most of a deer usually will be covered by branches. But it also applies to spotting mule deer in open country. Part of my friend's problem was that he was looking for a deer's body. He should have looked for smaller pieces of the deer. For instance, a muley's ears are often lighter than the rest of the animal and stick out like a big V against a hillside. They're moving much of the time, too, flicking in little movements easy to spot once you know

John Barsness, of Townsend, is a freelance writer and co-owner of Deep Creek Press. This article is adapted from his book Hunting the Great Plains, *published by Mountain Press Publishing Company.*

Mule deer seem to prefer country that's more up and down than the flatter whitetail habitat. They're fond of sitting on almost-open hillsides, where they can have a view.
DONALDMJONES.COM

Experienced deer hunters, whether whitetail experts or mule deer sages, will tell you **they look for part of a deer**...Clear days are best, because you may catch a slight glint of sunlight off an antler.

what to look for. The other end of a mule deer is also conspicuous: Any time you see a white circle bisected by a black-tipped bar, you know you're looking at a mule deer rear. Shadows help, like the one thrown by the big buck at the beginning of this article. I've occasionally spotted a shadow floating on a hillside when there wasn't any apparent reason for it, then looked upward to find a mule deer on top of the shadow.

The best times for glassing are morning and evening, because deer are more apt to be moving then, and it's always easier to spot moving deer than bedded ones. Clear days are best, too, because you may catch a slight glint of sunlight off an antler, and shadows are more prominent. Overcast days flatten everything out.

Another popular method for mule deer hunting on the plains is to walk coulees. Usually two hunters walk along either side of a brushy draw. Mule deer are much more easily driven from cover than whitetails and will usually leave brush without much coaxing. If you're after a young deer and don't care about trophies, this is an excellent method, as the younger deer will often stop for that last—very last—muley look. Big bucks, however, keep moving, and a running mule deer, because of its jackrabbit bounce, is a difficult target. I don't advise trying to put your crosshairs on a running deer unless it's close and you're well practiced in offhand shooting. I've seen far too many deer wounded that way.

FINDING THE 30-INCHERS

Truly large mule deer bucks, with a 30-inch or more inside antler spread, are perhaps the most challenging big game animal an open-country hunter can find. Big bucks prefer the most rugged places, the gnarly stretches of badlands and breaks. These huge deer pose many obstacles for the hunter, not the least of which is getting the carcass out. Occasionally you can take a vehicle along the ridgetops in badlands; this is a common hunting method in some areas. Geologically,

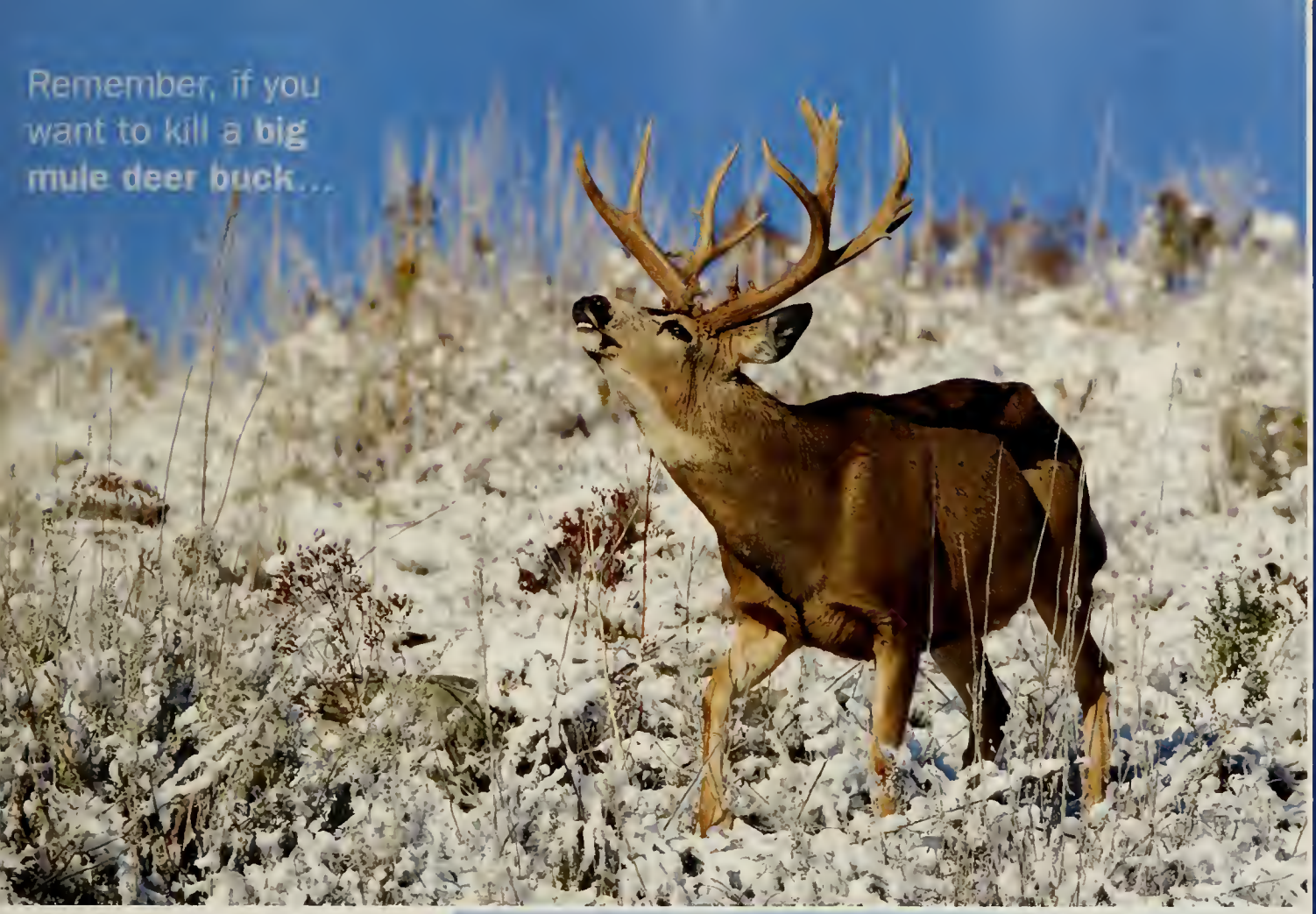
badlands are places that used to be flat but erosion has scoured away the topsoil. In more recently eroded badlands, long "fingers" of sod stretch out into rugged country, offering routes for wheeled hunters (if permissable by the private landowner or public land agency). Unfortunately, increased access pushes big bucks farther back into broken country. If you want a big buck, you'll still end up walking for miles after you get to the end of four-wheel-drive trails.

Many times I've casually sat on an open hillside and glassed a slope for smaller mule deer. The hunter who tries such a tactic on big bucks will end up with no meat in the freezer and no antlers on the wall. Big mule deer bucks need three basic things: a vantage point where they can rest unbothered (usually with at least two escape routes), nearby water, and nearby food. Rough-country bucks will often choose a patch of juniper or other small trees on the ridge point between two big coulees as their resting spot. Those animals are extremely difficult to approach. They're also nervous about being seen—even from a distance. A younger deer may sit and look back at a hunter glassing it from the opposite slope, but big bucks are up and gone the moment they're sure they've been spotted.

If you do spook a big buck from such a hiding place, consider returning there later. Big muleys are often reluctant to give up a choice resting spot, especially one near water. A buck that has found a backcountry stock dam or spring with a nice vantage point nearby isn't about to give it up—at least as long as he has not been shot at. If you happen to roust a buck from his hideout, don't shoot unless the chance of a kill is reasonably sure. Wait a day or two and return, approaching the spot more circumspectly. This tactic works even better in a dry year, because deer are more reluctant to leave the few available watering spots.

The semi-open ponderosa pine forests that top some of the highet breaks also offer good mule deer hunting. This is almost timber hunting, because the country usually consists of pine-topped ridges over open slopes. In morning and evening, walk carefully through the pines while glassing the opposite slopes. During midday, work the thicker timber around water sources.

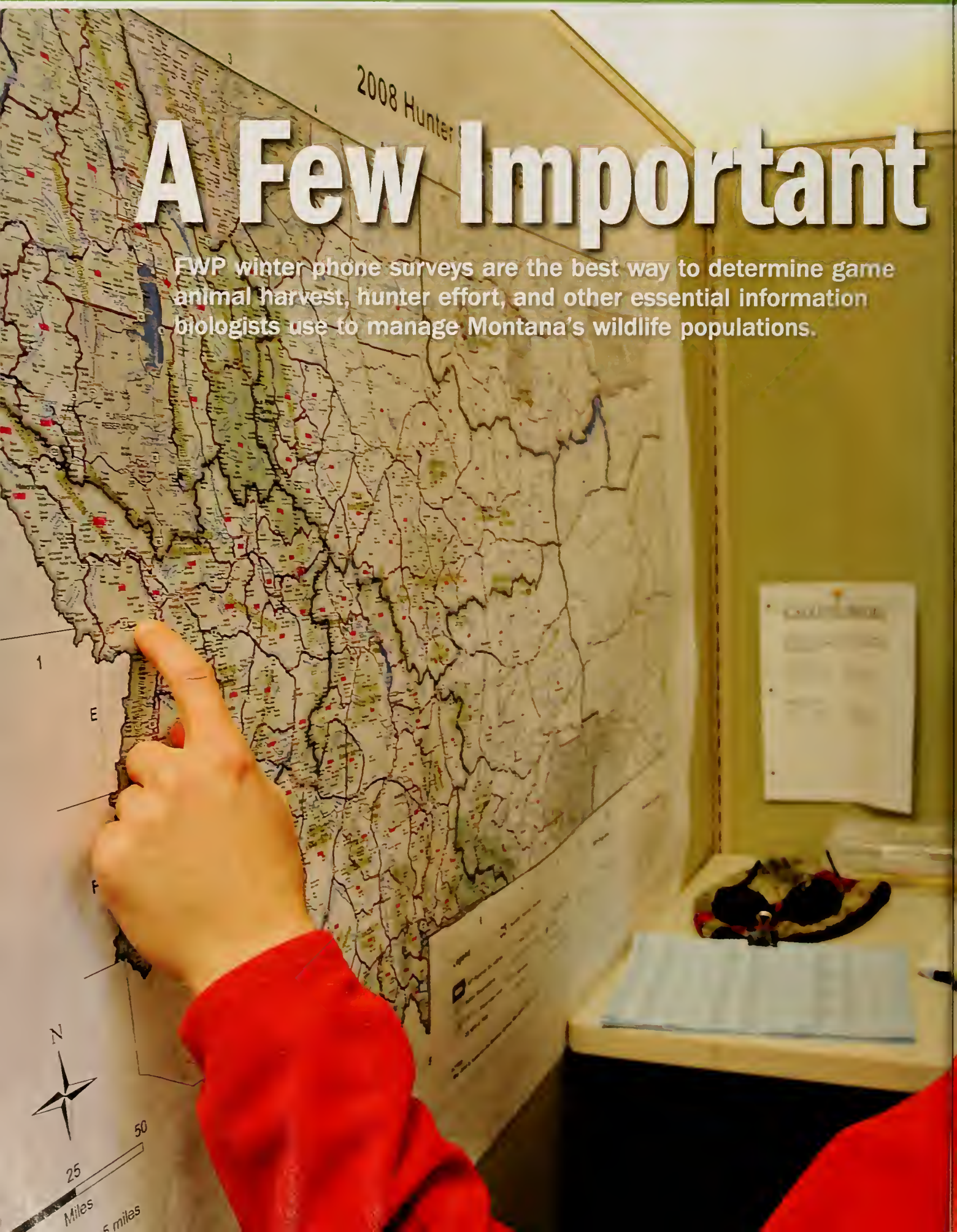
You can also find mule deer on sage flats. Rest your rear just below a ridge and carefully scan the country with binoculars, especially early and late in the day. Mule deer travel established routes in sage country, though on a vastly larger scale than the trails made by river breaks deer. That's because they must travel farther to water. I was hunting in the Missouri Breaks on the C.M. Russell National Wildlife Refuge one November day and had just about given up. Legal shooting hours were almost over and I was thirsty, so I headed toward my pickup, parked a half mile away. I'd just walked around the edge of the only tract of gumbo butte within miles when a dozen mule deer does trotted around one of the buttes. It was getting late in the season, so I sat down and killed one with my .270. It wasn't until I dressed the doe and started dragging it toward my pickup that I noticed the area was covered with deer trails that



twisted throughout the tall sagebrush. Evidently the deer traveled along the side of that butte to a small stock dam several hundred yards away for their evening drink. I had to wait another year to prove my theory. This time I was ensconced on the side of the butte. At about 15 minutes before sundown two bucks came by, a three-pointer and a four-pointer. When they were about 150 yards away and paused to sniff the air, I killed the larger deer.

Where is Montana's best open-country mule deer habitat? You'll find parcels practically anywhere in the state's eastern half, but they are most abundant in the southeastern corner in and around Custer National Forest and in the Missouri Breaks region of the state's central portion.

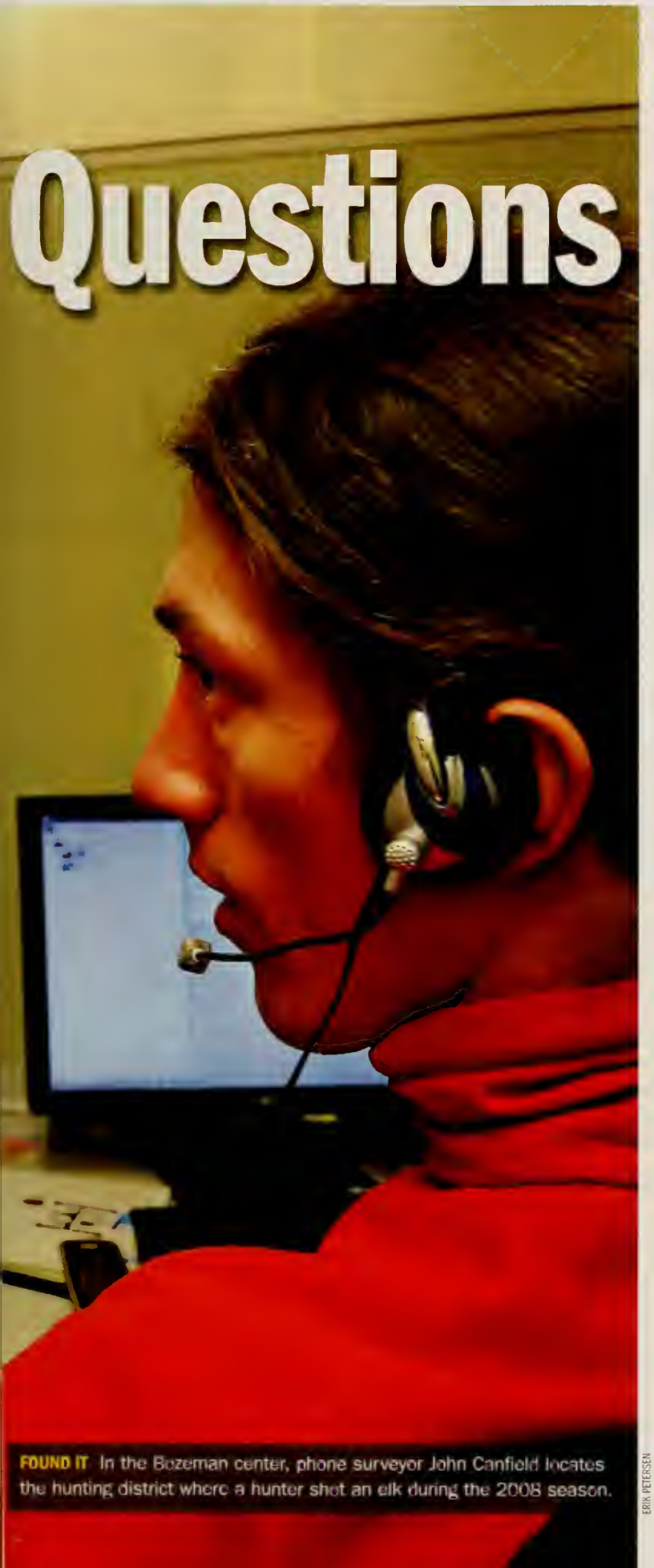
Remember, if you want to kill a big mule deer buck, you'll need to work for it. That means walking as far as possible from the routes used by road hunters. In the breaks, look for the ruggedest country you can find. And where it's wide open, just look. There may be a big deer right in front of you.



A Few Important

FWP winter phone surveys are the best way to determine game animal harvest, hunter effort, and other essential information biologists use to manage Montana's wildlife populations.

Questions



FOUND IT In the Bozeman center, phone surveyor John Canfield locates the hunting district where a hunter shot an elk during the 2008 season.

ERIK PETERSEN

By Tom Dickson

I've just finished dinner on a mid-January evening when the phone rings.

"Hi, this is Lois with Montana Fish, Wildlife & Parks," says a voice at the other end. "We're doing our annual game harvest survey. Could I ask you a few important questions about your hunting season?"

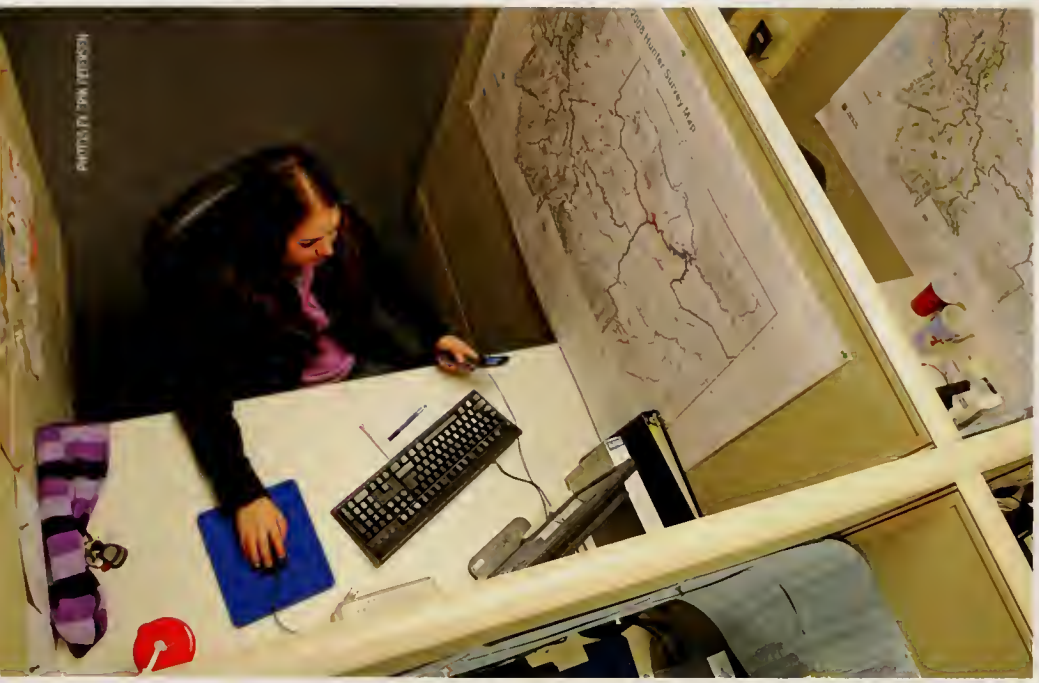
I've received a similar call from a polite and efficient FWP phone surveyor most years I've lived in Montana. It's always fun to recall my different hunts and talk about the game I did and didn't bag. What's more, I like knowing that the few minutes I spend on the phone helps FWP manage wildlife.

But I never understood how it helped. What's more, I've wondered if those tens of thousands of phone calls made each winter to me and other hunters are really necessary. Wouldn't it be easier—and much cheaper—for us to self-report our success on-line, as is done in several other western states?

100,000 CONVERSATIONS

On a cold February evening in downtown Helena, I visit the office building where FWP has established one of two phone banks (the other is in Bozeman). Kevin Tucker, in his first season as a phone surveyor, is asking a hunter about her deer season. He wants to know if and where she hunted, if she killed any deer, and which tags she used for each one. From their cubicles in the small office, another half-dozen surveyors are likewise conversing with Montana resident and nonresident hunters from across the country. Each winter, from early December through mid-April, roughly 50 temporary, part-time phone surveyors call approximately 250,000 hunters and eventually reach and interview 100,000, about 60 percent of the hunters who purchase licenses.

Justin Gude, head of FWP wildlife research, says the



MAPPING IT OUT Ashlee Peery, left, calls a hunter's phone number randomly selected by computer. Rob Lueck, above, listens to a hunter tell about an unsuccessful moose hunt the previous fall. One phone surveyor who works at the FWP phone bank in Helena says, "Most hunters seem to like having someone ask them about their hunts."

surveys are structured to gather information about the hundreds of different licenses and permits offered by FWP. "For instance, the 291-00 is the antlerless mule deer archery-only license for a hunting district in the Garnet Range west of Missoula," he says. "We issue 200 of those licenses, so we calculate how many hunters we'll need to contact to gather enough information to accurately assess hunter effort and harvest."

A computer picks ALS (Automated Licensing System) numbers of hunters to be called for each particular license. The selections are random. As a result, some hunters don't receive a call for several years, while others are called nearly every winter. And some hunters get asked about only one license they purchased, while others are asked about most or all licenses.

When surveys are finished at winter's end, FWP has an accurate picture of how many game animals were killed in each hunting district (or county, for upland game birds and wild turkeys) and the hunter "effort" (days) required to harvest those animals. Phone surveys gather information on hunting seasons for all game animals as well as mountain lion and wolf sightings. (The exception is waterfowl and other migratory bird harvest information, which is collected by the U.S. Fish & Wildlife Service when hunters purchase their licenses.)

Gude says biologists need the information—along with data from check stations and the aerial and other population surveys FWP conducts—to determine the following season's big game harvest "quotas" (see sidebar, page 35). The information has other uses. Interviewers ask hunters for the number of points on the antlers of harvested bull elk and mule deer bucks; FWP then posts the results on-line so hunters can locate hunting districts producing the biggest trophies. Information on how many days hunters spend to kill elk and other game animals in each hunting district may indicate whether wildlife populations there are declining (more days required to kill an animal) or increasing (fewer days required). Rob Brooks, FWP economist, says the department also uses hunter effort information to estimate the economic value of hunting throughout Montana. The information is shared with communities interested in the value of hunting to their local economies. "For instance, we know from other survey work that nonresident hunters spend an average of $175 a day on mule deer hunting," Brooks says. "If we learn from the winter phone surveys that hunting districts around Broadus are seeing about 2,200 nonresident hunter days each season, we could say the economic value of mule deer hunting to that area is around $385,000 annually."

> "We always leave a message that it's Montana Fish, Wildlife & Parks calling, so if people just listen in as we are leaving the message, they can hear it's us and pick up."

MILLIONS OF ROWS OF DATA

With so many hunters, hunting districts, and hunting licenses, gathering harvest information each season is difficult. Each year FWP's computer software development team sets up a website that phone surveyors use to find out which specific licenses they need to ask each hunter about. A biometrician produces computer code to select the random name sampling for each license and to analyze the data. "The code for analyzing deer surveys alone is 200 pages long," says Robin Russell, FWP wildlife biometrician in Bozeman.

Phone surveyors type the information they gather into a central database, where it can be immediately accessed for analysis. "At

Tom Dickson is editor of Montana Outdoors.

the end of the surveys we have thousands of rows of data to sort and analyze," Russell says. Analysis is completed by May and provided to wildlife biologists across the state, who have begun preparing harvest quotas for the following season.

Wouldn't the process be easier and faster if FWP called fewer hunters? Political pollsters, for example, contact less than 5 percent of a population. "If we only wanted an estimate of, say, the statewide elk harvest, then we could get by with sampling only 5 percent of all elk hunters," Gude says. "But we need data from hundreds of hunting districts. The only way to get that is to contact thousands and thousands of hunters."

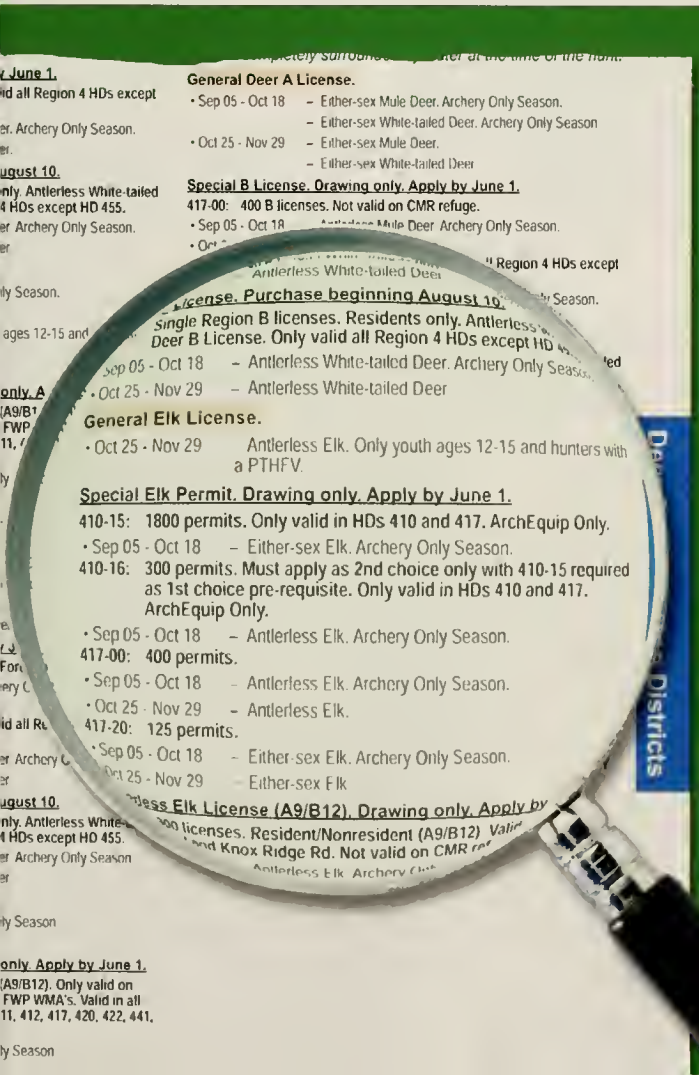
The survey used to be even more difficult. Only a few years ago, surveyors worked from home, entering data by hand on forms, which were later re-keyed into computers for analysis. "It took most of a year to analyze the information," says Ken McDonald, chief of FWP Wildlife. "Now with the phone centers and a centralized database, it's completed within just a month after the calling ends."

But technology has also made the survey more challenging. Tucker, the rookie surveyor, says he has called 10,019 hunters so far this winter and reached only 3,654—an average response rate. "Some people aren't home, some have disconnected their service, and some just don't pick up," he says. Keri Wash, phone survey coordinator for FWP, says caller ID has made it harder to reach hunters. "A lot of times people won't pick up if it's not a friend or family member," she says. "But we always leave a message that it's Montana Fish, Wildlife & Parks calling, so if people just listen in as we are leaving the message, they can hear it's us and pick up. That happens a lot."

THE BEST METHOD?

Many western states don't believe interviewing hunters by phone is the best way to gather harvest information. Washington, Idaho, Oregon, Nevada, and New Mexico require license buyers to report on-line or by phone whether they hunted, where and what they hunted, and if they killed any game animals. The idea behind "mandatory reporting" is that it's cheaper and gathers data from more hunters.

But it doesn't quite work that way, says Gude, because many hunters don't comply. After evaluating other states' hunter harvest survey methods, he found that compliance ranged from 85 percent in Washington to only 10 percent in Oregon. Some states actually have to fine hunters who don't comply. And even then they still don't get full participation. "Many hunters don't like mandatory reporting, and it's economically and socially expensive to enforce compliance," says Gude. "These states have had to establish 24-hour reporting websites or call-in centers, set up grace periods for hunters who are late but still


General Deer A License.
• Sep 05 - Oct 18 – Either-sex Mule Deer. Archery Only Season.
– Either-sex White-tailed Deer. Archery Only Season
• Oct 25 - Nov 29 – Either-sex Mule Deer.
– Either-sex White-tailed Deer
Special B License. Drawing only. Apply by June 1.
417-00: 400 B licenses. Not valid on CMR refuge.
Region 4 HDs except
Antlerless White-tailed Deer
Purchase beginning August 10.
Single Region B licenses. Residents only. Antlerless
Deer B License. Only valid all Region 4 HDs except HD
• Sep 05 - Oct 18 – Antlerless White-tailed Deer. Archery Only Season
• Oct 25 - Nov 29 – Antlerless White-tailed Deer
General Elk License.
• Oct 25 - Nov 29 Antlerless Elk. Only youth ages 12-15 and hunters with a PTHFV.
Special Elk Permit. Drawing only. Apply by June 1.
410-15: 1800 permits. Only valid in HDs 410 and 417. ArchEquip Only.
• Sep 05 - Oct 18 – Either-sex Elk. Archery Only Season.
410-16: 300 permits. Must apply as 2nd choice only with 410-15 required as 1st choice pre-requisite. Only valid in HDs 410 and 417. ArchEquip Only.
• Sep 05 - Oct 18 – Antlerless Elk. Archery Only Season.
417-00: 400 permits.
• Sep 05 - Oct 18 – Antlerless Elk. Archery Only Season.
• Oct 25 - Nov 29 – Antlerless Elk.
417-20: 125 permits.
• Sep 05 - Oct 18 – Either-sex Elk. Archery Only Season.
Oct 25 - Nov 29 Either-sex Elk
Antlerless Elk License (A9/B12). Drawing only. Apply by
licenses. Resident/Nonresident (A9/B12) Valid
and Knox Ridge Rd. Not valid on CMR
Antlerless Elk. Archery
Districts

QUOTAS ARE KEY TO MANAGING MONTANA'S WILDLIFE POPULATIONS

The primary use of hunter phone surveys is to gather information that biologists use to determine harvest quotas for each hunting season. A quota is the number of animals that wildlife managers determine should be harvested in a particular hunting district to increase, decrease, or maintain the size of an elk, deer, or other big game animal population.

FWP manages most big game primarily by adjusting the number of female (antlerless) animals killed by hunters each season to arrive at a previously determined population "objective." The objective is a number that factors in hunter demands for recreation, landowner concerns about depredation, and the land's capacity to support the animals. If a population is "below objective," biologists lower antlerless quotas, thus protecting more females to produce young and increase numbers. If a population is "above objective," biologists raise quotas so hunters will remove enough reproducing animals to lower numbers.

The number of permits FWP provides for a special license in a hunting district is based on the quotas wildlife managers aim to reach.

If wildlife managers know how many big game animals hunters harvested the previous year, and the current population and recruitment, they can accurately estimate what the upcoming season's harvest should be. The less information they get, however, the greater the chance they might not allow as much antlerless hunting as a population could provide. Or they might allow too much harvest, which then would knock the population down too low. The more abundant and immediate the information, the better biologists are able to meet the needs of hunters, landowners, and huntable wildlife populations.

DON'T FORGET After the season, be sure to remember where and for how long you hunted.

DENVERBRYAN.COM

PREPARE FOR THE CALL

If you hunt in Montana, odds are you'll get a call from an FWP phone surveyor this winter. Keri Wash, who coordinates the surveys, says you can ensure that surveyors receive the best information possible to help Montana's wildlife management if, beforehand, you:

1. Keep track of the different hunting districts where you hunt. (You should always know these district numbers anyway to be certain you are hunting during the correct seasons with the right licenses.)
2. Keep track of how many days you hunt. The information is essential for determining hunting pressure.
3. If screening calls, consider listening to the message as it's being recorded. "We always leave a message that it's Montana FWP calling, so if people just listen in as we're leaving the message, they can hear it's us and pick up," says Wash.

report, establish a collection process for late fees, and track whether hunters have complied and if they've paid their late fees. It's complicated and expensive."

Most hunters who report are those who successfully filled their tag during the year. That skews the results, says Gude, requiring follow-up calls to hunters who don't report. "Getting a portion of harvest information using mandatory reporting is what's known as an 'opportunity sample,'" he says. "In statistics, opportunity samples only gather data that are most easily available—in this case, information from hunters who obey the mandatory requirement or want to report their success." Gude explains that the failure of opportunity sampling was proved as early as the 1930s, when it was tried for population censuses. "If you only count the people who come to the door when you knock at noon, for example, you're skewing the results toward people who are home during the day," he says.

> "That will be weird, for sure, but it will be fun to be the hunter talking about *my* season for a change."

Gude notes that even with penalties, compliance of mandatory reporting is never 100 percent, which means some percentage of those not reporting still must be called and interviewed. That's because there is no statistically valid way to extrapolate harvest estimates from the sample of hunters who comply to those who don't. In Idaho, for instance, compliance is only 60 to 65 percent, despite incentives and penalties tried in recent years. As a result, Idaho Game and Fish must call 40,000 of the hunters who don't report and conduct phone interviews. "They told us they spend $200,000 each year on their mandatory system before they even do the follow-up survey," says Gude. "That's 60 percent more than we spend, and they sell about half the number of licenses and permits we do."

Montana's system relies on "random sampling" similar to how the Gallup Poll and the U.S. Census are conducted. McDonald says FWP's method of surveying hunters is working well. Department staff constantly refine survey methods with statistics experts at Montana State University and the U.S. Geological Survey. And they regularly test possible improvements that could save money or time. "One thing we're considering for the future is to e-mail some hunters and ask them to complete the survey online," McDonald says.

Back at the Helena phone bank, the surveyors are making their final calls of the night. Donna Torgerson finishes interviewing a married couple from Wisconsin who hunted mule deer near Roundup and killed two bucks, both 3x3s. Torgerson, who does not hunt but wants to start next season, tells me one reason she applied for the job was to learn about Montana hunting and hunting regulations. "Talking to all these hunters really gets me excited. Next year I want to find out for myself what it's like," she says.

And then, of course, she might end up on the other end of the line, talking to one of her fellow phone surveyors. "That will be weird, for sure," she says, "but it will be fun to be the hunter talking about *my* season for a change."

SURVEY DATA ON-LINE

FWP publishes much of its winter phone survey results on-line, including drawing statistics, annual harvest reports, hunter success, and response rates. Find survey reports as spreadsheets and pdfs at **fwp.mt.gov/hunting/planahunt.**

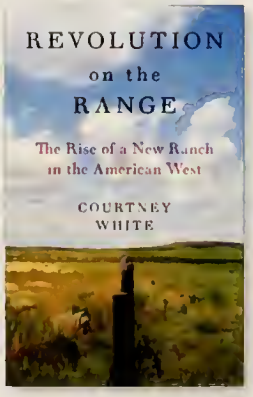
Recommended Reading

Read anything interesting lately? If not, here are ten new recommended books covering everything from land-friendly grazing and world record fish catches to 19th-century big game hunting and Going-to-the-Sun Road. Surely a few will strike your fancy. BY TOM DICKSON >>

Revolution on the Range: The Rise of a New Ranch in the American West

Courtney White. Island Press, 228 pp. $25.95

Can cattle and wildlife coexist? Or, more accurately, can ranchers and environmentalists? That's the question former archaeologist and Sierra Club activist Courtney White sets out to answer in this insightful examination of how ranchers across the West are embracing new ways to graze cattle and nurture the land. This is no anti-grazing diatribe. White recognizes that ranchers "have been a critical part of America's ethnic and historical tapestry, and remain so to this day." And while censuring livestock operators who continue to abuse the land, he shows equal disdain for environmentalists who still naively believe the only way to protect landscapes is to remove people.



Co-founder of a nonprofit conservation group that builds relationships among ranchers, environmentalists, scientists, and others, White is uninterested in dogma. His goal is to find ways to maintain and improve land health. In dozens of interviews with successful practitioners of "New Ranching" from Montana to New Mexico, he shows how science-based grazing methods not only prevent land from deteriorating but also improve soil, grass, and water. More important, the examples show that when people set aside prejudices and hatred and agree to work on finding solutions, age-old adversaries can build relationships as healthy and productive as the land itself. ■

If Fish Could Scream: An Angler's Search for the Future of Fly Fishing.

Paul Schullery. Stackpole Books, 208 pp. $24.95

Fly anglers are contemplative by nature. (There's plenty of time for pondering life's great questions when the fish aren't rising—which is most of the time.) But few of us think as deeply—and write as provocatively—as Paul Schullery. In this compilation of seven essays, the author, editor, and fly fishing historian delves into topics including the angling "hero," the role of dams in destroying—and creating—coldwater fisheries, and the book's namesake essay on the ethics of catch and release fishing. In the latter, Schullery points out that the act of releasing fish is viewed by its practitioners as the highest form of conservation and angling ethics, yet its detractors consider the same action to be sadistic cruelty. He also gives a brief history of how humans have pondered the morality of using bait, and delves into the ethics of "playing" a fish.

"Our sport may not depend upon the fish suffering terror or fear," he writes, "but it does require us to stress the fish in other ways that, even if they don't hurt, place upon us an accountability we have not yet fully considered."

Well, most of us haven't. But I suspect Schullery has. ■

100 Best Flies for Montana Trout

Compiled and edited by Thomas R. Pero. Photographs by Ted Fauceglia. Wild River Press, 210 pp. $24.95

If you fly fish, you're used to squinting to see the miniscule nymph or dry attached to your tippet. This book shows you what that tiny speck of hook and feather actually looks like up close. The flies, crafted by experts at some of Montana's top fly shops, range from the elemental X Caddis to the wildly structured Ritt's Rust Fighting Crawfish. Among our favorites in this tribute to fly-tying artistry: Montana Fly Company's Trina's CDC Pale Morning Dun Budding Emerger, which delicately blends synthetic yarn and feathers into a seemingly living insect; Dan Bailey's Bead-Head Hare's Ear and Olive Comparadun Baetis, both of them studies in elegant simplicity; and Riverborn Fly Company's Delektable Spawning Screamer, a fly so beautiful it seems shameful to get it wet, much less let a big cutthroat mess it up. ■

Big: The 50 Greatest World Record Catches

Illustrations by Flick Ford. Text by Mike Rivkin. Greenwich Workshop Press, 216 pp. $50.

This is not a book about Montana fishing, and it includes only a few trout among the 50 species featured. Nevertheless it's a fascinating and visually stunning read for anyone interested in fish and fishing. The massive coffee-table volume tells the story of amazing world record fish catches from around the globe. If you're into big fish—and what angler isn't—you'll be drawn to the story of Arkansan Rip Collins and the 40.25-pound, 40.5-inch-long brown trout he caught in 1992 on Arkansas' Little Red River. Or the controversy surrounding the world record muskellunge—disqualified because angler Louis Spray had to shoot the toothed monster to subdue it. Equally enthralling are the lifelike illustrations by master fish painter Flick Ford. ■

Montana Place Names from Alzada to Zortman

Rich Aarstad, Ellie Arguimbau, Ellen Baumler, Charlene Porsild, and Brian Shovers. Montana Historical Society Press, 347 pp. $24.95

We love taking this book on trips across Montana. We've learned that Belt was so named because of a nearby butte with a prominent dark band; Wilsall along the Shields River holds an annual lutefisk supper each December to celebrate its Scandinavian heritage; Ekalaka is named for Ijkalaka, the Ogallala Sioux niece of Chief Red Cloud and bride of David Russell, who opened a store and saloon there in 1885; and Grasshopper Glacier in Park County was named in the early 1900s when a federal mining engineer discovered thousands of locusts embedded in the ice. And that's

just 4 of the 1,263 town and place names listed.

Included are 24 color maps, based on the official Montana state highway map, that help readers locate every place in the book. The volume also includes dozens of wonderful historical photos from the Montana Historical Society archives, including one from 1908 showing the Blackfoot River filled bank to bank with logs near the Bonner mill. ■

Slice of the Wild: Cut and Cook Game for your Table

Eileen Clarke. Deep Creek Press, 184 pp. $29.95

Eileen Clarke of Townsend may be the Julia Child of western game cookery. In her new book, she takes readers from the killing shot to the dinner table, paying particular attention to field dressing, aging, and butchering. Should you remove the scent glands? How long should the carcass be aged? Clarke has had plenty of practice to learn the answers. She and her husband, outdoor writer and editor John Barsness, have shot, field dressed, and butchered more than 200 big game animals between them over the years, from Montana pronghorn to Alaska caribou.

Especially helpful are step-by-step photographs showing how to skin the animal, divide the carcass into sections, and then cut the primary muscles into steaks and roasts. Clarke backs up her instruction with research from the American Meat Science Association and International Congress of Meat Science and Technology.

Also included are recipes, such as Christmas Chorizo Rollups and Balsamic Parmesan Marinated Steaks. ■

Bug Feats of Montana

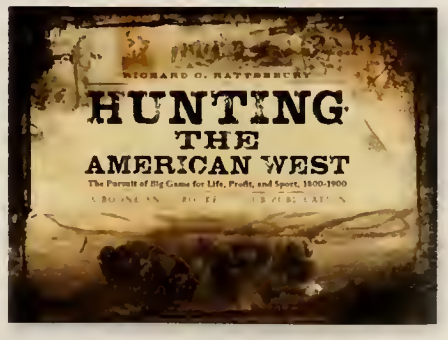
Deborah Richie Oberbillig. Illustrations by Robert Rath. Farcountry Press, 48 pp. $14.95

This fun new picture book by Missoula nature writer Deborah Richie Oberbillig is sure to turn any reader—child or adult—into a bugophile. The colorful volume profiles 40 insects including dragonflies, aphids, spiders, and ladybugs. It highlights "world record" holders such as the spittlebug (which can leap 100 times its height) and the cicada (which can make an alarm call louder than a jackhammer). Illustrator Robert Rath's fascinating images are often amusing. We didn't realize until after several readings that his horsefly is sitting on someone's delicate, braceleted wrist, about to take a bite. And don't miss his aphids in multiple strollers or the one being "milked" by a "farmer" ant. ■

Hunting the American West
The Pursuit of Big Game for Life, Profit, and Sport, 1800-1900

Richard C. Rattenbury. Boone and Crockett Club, 396 pp. $49.95

Countless books have been written on the origins of modern sport hunting and wildlife conservation, usually beginning in the late 1800s with George Bird Grinnell and young Theodore Roosevelt. This is the first we've seen that goes back further, to the early 19th century, tracing the evolution of big game hunting in the American West over the next 100 years.



Richard C. Rattenbury, previously curator at the Winchester Arms Museum in Cody, Wyoming, has written extensively on firearms history and hunting in the West. Here his insights into the methods and motives of subsistence, market, and sport hunting are enriched with period illustrations, photographs, and paintings—including simple but finely rendered colored pencil drawings by Cheyenne hunters in the mid-1870s. Rattenbury writes of Indian, pioneer, adventure, aristocrat, and conservation hunters. He also devotes space in his book to Frederic Remington, Philip R. Goodwin, and other great painters who captured exciting hunting scenes for publication back East. ■

Glacier National Park: The First 100 Years

C. W. Guthrie. Farcountry Press, 156 pp. $39.95

Despite first appearances, this is not another photographic coffee-table book on Glacier National Park. Not that there's anything wrong with those, but Guthrie's book is different. It's a riveting history of the park, which celebrates its centennial in 2010, told by an expert who has been researching Glacier for years. Guthrie begins with how the park's stunning peaks and namesake glaciers were formed. She then tells how the Cree, Gros Ventre, Assiniboine, Blackfeet, and other tribes used the area for seasonal hunting. A large part of the book is the story of how, in the early 1900s, George Bird Grinnell and other crusaders fought to establish the scenic wonder as a national treasure available to all.

Historical photos depict early park visitors and the famous lodges when newly built, and include a fascinating series of the route envisioned for Going-to-the-Sun Road, one of the great engineering feats of the early 20th century.

Guthrie also writes about the 2003 fires that blackened nearly 1.5 million acres of Glacier, and the avalanches that have hammered the park's roads and bridges. Especially fascinating is her account of the fight to repair Going-to-the-Sun Road, the closure of which would devastate local economies. ■

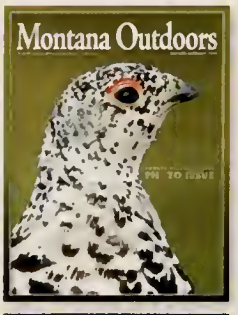
Historic Photos of Montana

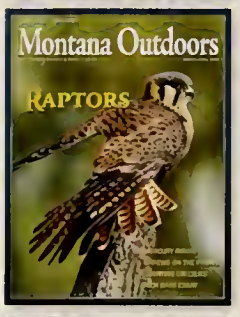
Text and captions by Gary Glynn. Turner Publishing Company, 206 pp. $39.95

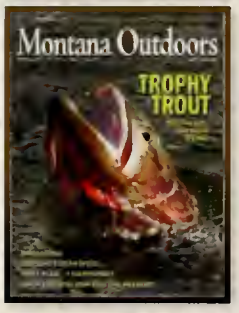
These photos from the Mansfield Library at the University of Montana and other collections depict some of the earliest known images of Montana Territory and continue through the early 20th century to the first decades of the postwar era. Of the many intriguing photos is one of the 25th Infantry Regiment, an African American unit stationed at Forts Custer, Shaw, and Missoula, so detailed it looks as if it had been taken yesterday.

Other images capture historic moments in Montana's history, such as the wreckage of the Miner's Hall in Butte after it was blown up by dissident union members. And some pictures depict scenes of ordinary Montana life, such as loggers eating lunch at the cook shack at Woodworth, in Powell County. ■

2009 *MONTANA OUTDOORS* INDEX







JANUARY-FEBRUARY 2009

In our 28th edition featuring the state's best nature, wildlife, and landscape photographs, art director Luke Duran explains the difficult but rewarding process he goes through each fall to select the images that appear in the annual photo issue.

MARCH-APRIL 2009

Operation Grizzly A monitoring project of military proportions produces an elusive population number and other critical information on northwestern Montana bears. *By Tom Dickson*

Grace from a Gloved Hand Ordinary Montanans with boundless patience and zeal dedicate themselves to an ancient sport once practiced by kings, sheiks, and emperors. *By Dave Carty*

Feeling the Heat Climate change is altering Montana's fish and wildlife populations, habitats, and recreation. *By Tom Dickson*

Pileated Woodpeckers in February *Essay by Rick Bass*

Digging Deep into History At Montana's historical state parks, archaeologists are unearthing clues to how settlers, prospectors, and early American Indians once lived. *By Lee Lamb*

Following Raptors' Ups and Downs Biologists and volunteers track the population fluctuations of Montana's birds of prey. *By Ryan Rauscher*

Terror on Tiny Feet Insects, earthworms, and grubs beware: Shrews are hungry—all the time. *By Kerry R. Foresman*

MAY-JUNE 2009

Small Flies for Big Trout You'd think large fish would eat only large flies. But on many Montana streams and rivers, it doesn't work that way. *By Neale Streeks*

Keeping an Eye on Mountain Trout Lakes Each summer, FWP fisheries workers head into the backcountry to monitor high-elevation fishing waters. *By Bob Gibson*

Precious Metals, Precious Trout Can Montana continue extracting the one without harming the other? *By Tom Dickson*

Let's Go Catch Some Fish! A basic guide to taking kids fishing (for adults who don't have a clue). *By Dave Hagengruber*

All stories from 2009 issues of *Montana Outdoors* are available on-line at fwp.mt.gov/mtoutdoors

Back issues are $3.50 each. Send your request along with payment to:
Montana Outdoors
P.O. Box 200701
Helena, MT 59620-0701

Growing A Bird Garden Landscape with native plants to create habitat that attracts a wide variety of bird species. *By Craig and Liz Larcom*

Monitoring Montana's Moving Water With measuring tools ranging from old-fashioned yardsticks to high-tech Doppler radar, stream-gagers keep a close watch on potentially dangerous rivers. *By Becky Lomax*

JULY-AUGUST 2009

Be Prepared (for Wildlife Encounters) Girl Scouts, Boy Scouts, and others teach youngsters how to avoid conflicts with bears, cougars, and other wild animals. *By Vivaca Crowser*

One Bear of a Study It took nine years, hundreds of volunteers, and four computer hard drives, but FWP research scientists now know how hunting affects black bear populations. *By Tom Dickson*

"Now Everybody Smile!" While taking pictures of state parks across Montana, a photographer finally figures out why everyone is so happy. *Story and photos by Kenton Rowe*

A Turn for the Worse Last year was the deadliest in a quarter-century for boating accidents. What happened, and how can such tragedies be prevented? *By Nick Gevock*

O'Neal's Long Johns Many suspect stories have been written about the Old Saloon in Emigrant, but I swear this yarn is true—at least some of it. *By Louis Lavoie. Illustrations by Mike Moran*

Creating the Wildlife-Friendly Fence FWP provides instruction on how to modify fencing to prevent elk, deer, and pronghorn from injuring themselves and damaging private property. *By Christine Paige*

SEPTEMBER-OCTOBER 2009

Another Mouth To Feed Hunters in western Montana are feeling the pinch as the growing wolf population takes a bite into deer and elk numbers. *By Tom Dickson*

Lucky Ewe Sometimes you make the most of what you get. *By John Barsness*

Getting Another Shot Innovative equipment, able-bodied partners, and sheer grit combine to bring hunters with disabilities back into the field each fall. *By Scott McMillion. Photos by Erik Petersen*

Harvesting Information from the Hunt Crews at mandatory hunter check stations gather data that biologists use to manage deer, elk, and other wildlife. *By Tom Dickson*

Learning the Language of Land Ownership Deciphering descriptions like "Sec. 5&6, T3NR4W" can increase your odds of gaining hunting access. *By David Vickery*

Growing Pheasants Naturally FWP, the BLM, and Pheasants Forever team up to improve upland bird habitat on public land in south-central Montana. *By Bob Gibson*

Out Here: The Field Sometimes a fine piece of land is more than just a place to hunt. *By Larry Michnevich*

NOVEMBER-DECEMBER 2009

The (Surprisingly) Quiet Bison Hunt Unlike 20 years ago, there has been little uproar over the recent hunting of wild buffalo emerging from Yellowstone National Park. Why? *By Scott McMillion*

Into the Meat Locker Behind the closed doors of a game processing facility. *By Tom Dickson. Photos by Erik Petersen*

Becoming Aware of the Bear As Montana's grizzly numbers grow and the bears remain active well into the big game season, hunters need to be more alert than ever. *By Scott McMillion*

Muleys in Plain Sight Finding mule deer in eastern Montana sage and grasslands often means seeing what's right there in front of you. *By John Barsness*

A Few Important Questions FWP winter phone surveys are the best way to determine harvest, hunter effort, and other information biologists use to manage Montana's wildlife populations. *By Tom Dickson.*

Gray-Crowned Rosy-Finch

Leucosticte tephrocotis

JWANTULOK.COM

BY LORI MICKEN

Winter officially begins for me when a flock of gray-crowned rosy-finches arrives. I live near the base of Bozeman Pass, at 5,500 feet elevation. Each year in late November or early December, a large flock descends from the high mountains to spend winter in my yard, attracted to my nine bird feeders and nearby trees and creeks.

Gray-crowned rosy-finches are sometimes found in large flocks of over 1,000 individuals, though the flocks that come to my yard are never so big. Some years a flock with only 50 birds visits. But for some reason the number last winter was a record 500-plus birds. (To make counts, I photograph the flock in a tree, then count the birds in the picture.)

If we have a few warm days in winter, the flock vanishes, only to reappear when snow or cold returns. In March the birds migrate back to higher elevations for breeding. That's when I know winter is finally over.

DESCRIPTION The gray-crowned rosy-finch is a handsome little bird the size of a house sparrow. The body is a warm cinnamon-brown, the head is mostly gray with a dark throat and forecrown, and wings are gray, black, and pink. Males have a pink rump and belly, but coloration varies widely among different birds. Females generally have less pink and are lighter colored. The sturdy beaks of both sexes are yellow, and feet and legs are black.

Montana has two subspecies of gray-crowned rosy-finch: the coastal (gray-cheeked or Hepburn's) and the interior. The Hepburn's subspecies has gray covering the entire neck, while the interior's neck is cinnamon-brown. I have observed an increase in the Hepburn's subspecies through the years, but they still constitute only a small percentage of the flock that frequents my backyard.

DISTRIBUTION AND HABITAT Gray-crowned rosy-finches live in all but the most northern parts of Alaska, through westernmost Canada, and south through the Cascades and Rockies. In Montana they summer high in the mountains from the Idaho border east to the Little Belts and Crazies. The birds usually stay above tree line at elevations up to 11,000 feet, in tundra, rocky summits, cirques, and snowfield edges. In winter they descend to lower elevations to escape the continuous snowpack and then spread throughout much of the state.

REPRODUCTION Rosy-finches are not as gregarious during breeding season as in winter. But sometimes they can be found nesting in small groups in prime breeding areas. In crevices of cliffs and talus among glaciers and snowfields, they build nests of grass, lichen, and moss lined with feathers and fine grasses. The three to five eggs are white.

BEHAVIOR Some field guides say these birds hop; others say they walk. I have observed them doing both. Gray-crowned rosy-finches are ground foragers, living on seeds as well as wind-blown insects they find in grass or caught on the edges of snowfields. They readily visit elevated bird feeders.

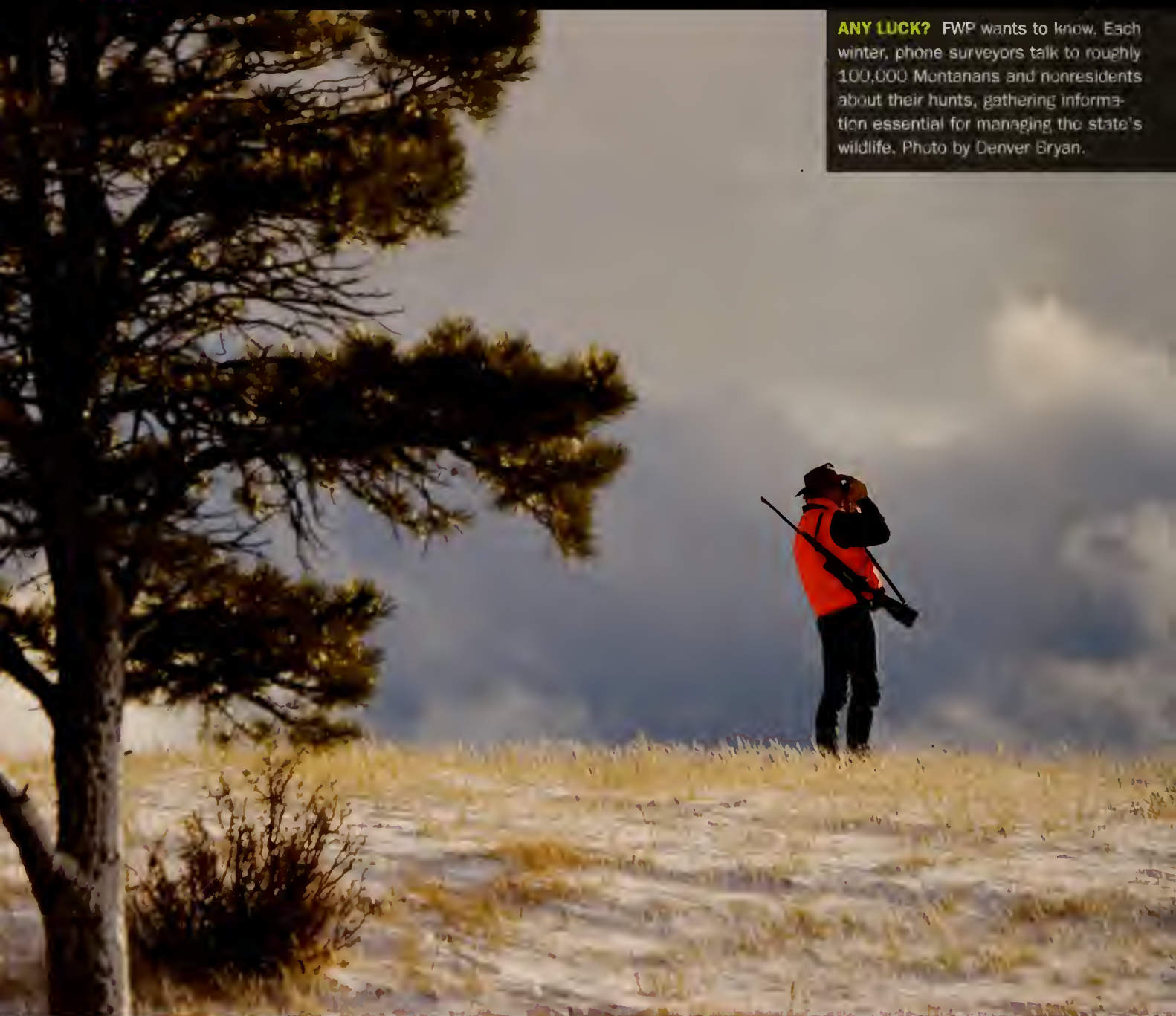
The birds are quite tame, perhaps owing to their remote breeding sites and rare human contact. But the flock often startles, moving away in unison, their wingbeats creating a din audible from inside the house. Usually one to several birds remain, diligently eating, only glancing up at the retreating birds. The others then return one at a time until the entire flock roars back and starts feeding again. I've seen a flock consume a gallon of birdseed in half an hour.

People have long expressed an affinity for gray-crowned rosy-finches, perhaps because of the birds' pinkish coloration, gregarious nature, or tolerance for human presence. A 1937 bird book describes them as "optimistic little creatures living the gospel of, 'come storm or sunshine, all is well.'"

CONSERVATION According to results of the annual Audubon Christmas Bird Count, Montana's gray-crowned rosy-finch population is declining. "Climate change is suspected, because alpine habitats are one of the first to feel the effects of a warming climate," says Catherine Wightman, bird conservation specialist with Montana Fish, Wildlife & Parks. "Breeding habitat for rosy-finches and other alpine breeders is becoming more limited." Despite these concerns, the gray-crowned rosy-finch remains a denizen of many backyards throughout the winter and, for me, a delightful harbinger of both winter and spring.

Lori Micken is a retired high school biology teacher who lives near Livingston.

PARTING SHOT



ANY LUCK? FWP wants to know. Each winter, phone surveyors talk to roughly 100,000 Montanans and nonresidents about their hunts, gathering information essential for managing the state's wildlife. Photo by Denver Bryan.

Montana Fish, Wildlife & Parks

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